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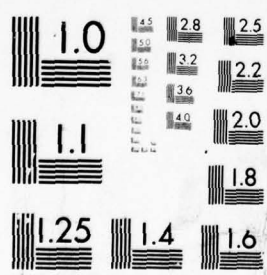

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MANCP REPORT NR 398(78)
MMWRM PROJECT M82937C/M82938C

PROPELLANT SURVEILLANCE REPORT
ANB-3066 PROPELLANT

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ABSTRACT

This report contains test results on ANB-3066 propellant manufactured by Aerojet Solid Propulsion Company and Thiokol Corporation. Statistical comparison of all types was made on the basis of similar ages.

Propellants were analyzed with respect to the type of polymer used in the manufacturing process and by carton type.

Regressions are given for very low rate tensile, high rate biaxial tensile under pressure, stress relaxation and case liner bonds.

The test results indicate dissimilarity between Minuteman II, Stage II and Minuteman III, Stage III propellant as described by the linear regression analysis.

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TABLE OF CONTENTS

Section		Page
	Abstract	ii
	List of Tables	iv
	List of Figures	v
	List of References	x
	Glossary of Terms and Abbreviations	xii
I	Introduction	1-1
II	Test Program	2-1
III	Statistical Summary and Conclusions	3-1
IV	Very Low Rate Tensile	4-1
V	High Rate Triaxial Tensile	5-1
VI	Stress Relaxation	6-1
VII	Thermal Coefficient of Thermal Expansion	7-1
VIII	Case Liner Bonds	8-1
IX	Hardness	9-1
X	Other Tensile Tests	10-1
	Distribution List	11-1
	DD 1473	11-2

LIST OF TABLES

Table Nr		Page
3-1	Regression Analysis, Summary of Significance	3-6
3-2	Comparison of Standard Deviation	3-7
5-1	High Rate Triaxial Tensile, Significance of 't'	5-2
6-1	Stress Relaxation Significance of "t'	6-2
8-1	Summary of Regression Analysis, Stress vs Time to Failure	8-3
8-2	Mini-DPT Stage II Data	8-8
8-3	MiniDPT Stage III Data	8-10
9-1	Hardness, GTR and Phillips Unlined Polymer Data	9-2
9-2	Hardness, GTR and Phillips Lined Polymer Data	9-3
A-1	Lined Carton Cutting Plan	9-4
A-2	Unlined Carton Cutting Plan	9-5
A-3	ANB-3066 Unlined Thiokol Cutting Plan	9-6
10-1	ANB-3066 Regression Comparison, Tensile Max Stress	10-4
10-2	ANB-3066 Regression Comparison, Tensile Strain at Rupture	10-7
10-3	ANB-3066 Regression Comparison, Tensile Modulus	10-10
10-4	ANB-3066 Regression Comparison, High Rate Hydrostatic Tensile Maximum Stress	10-13
10-5	ANB-3066 Regression Comparison, High Rate Hydrostatic Tensile Strain at Rupture	10-16
10-6	ANB-3066 Regression Comparison, High Rate Hydrostatic Tensile Modulus	10-19

LIST OF FIGURES

Figure Nr		Page
	Data Plots, Very Low Rate Tensile	
4-1	ANA 'G' Maximum Stress, Unlined Cartons	4-3
4-2	ANA 'G' Strain at Rupture, Unlined Cartons	4-6
4-3	ANA 'G' Modulus, Unlined Cartons	4-9
4-4	ANB 'G' Maximum Stress, Unlined Cartons	4-12
4-5	ANB 'G' Strain at Rupture, Unlined Cartons	4-17
4-6	ANB 'G' Modulus, Unlined Cartons	4-22
4-7	ANB 'G' Maximum Stress, Lined Cartons	4-27
4-8	ANB 'G' Strain at Rupture, Lined Cartons	4-29
4-9	ANB 'G' Modulus, Lined Cartons	4-31
4-10	ANB 'P' Maximum Stress, Unlined Cartons	4-33
4-11	ANB 'P' Strain at Rupture, Unlined Cartons	4-38
4-12	ANB 'P' Modulus, Unlined Cartons	4-43
4-13	ANB 'P' Maximum Stress, Lined Cartons	4-48
4-14	ANB 'P' Strain at Rupture, Lined Cartons	4-50
4-15	ANB 'P' Modulus, Lined Cartons	4-52
4-16	ANT Maximum Stress, Unlined Cartons	4-54
4-17	ANT Strain at Rupture, Unlined Cartons	4-57
4-18	ANT Modulus, Unlined Cartons	4-60
4-19	ANT 'P' Maximum Stress, Lined Cartons	4-63
4-20	ANT 'P' Strain at Rupture, Lined Cartons	4-65
4-21	ANT 'P' Modulus, Lined Cartons	4-67
4-22	ANA 'G' & ANB 'G' Maximum Stress, Unlined Cartons	4-69
4-23	ANA 'G' & ANB 'G' Strain at Rupture, Unlined Cartons	4-74
4-24	ANA 'G' & ANB 'G' Modulus, Unlined Cartons	4-79
4-25	ANB 'G' & 'P' Maximum Stress, Unlined Cartons	4-84
4-26	ANB 'G' & 'P' Strain at Rupture, Unlined Cartons	4-89
4-27	ANB 'G' & 'P' Modulus, Unlined Cartons	4-94
4-28	ANB 'G' & 'P' Maximum Stress, Lined Cartons	4-99
4-29	ANB 'G' & 'P' Strain at Rupture, Lined Cartons	4-101
4-30	ANB 'G' & 'P' Modulus, Lined Cartons	4-103

LIST OF FIGURES (cont)

Figure Nr		Page
4-31	ANT 'P' & ANB 'P' Maximum Stress, Unlined Cartons	4-105
4-32	ANT 'P' & ANB 'P' Strain at Rupture, Unlined Cartons	4-110
4-33	ANT 'P' & ANB 'P' Modulus, Unlined Cartons	4-115
4-34	ANT 'P' & ANB 'P' Maximum Stress, Lined Cartons	4-120
4-35	ANT 'P' & ANB 'P' Strain at Rupture, Lined Cartons	4-123
4-36	ANT 'P' & ANB 'P' Modulus, Lined Cartons	4-126
	Data Plots, High Rate Triaxial Tensile	
5-1	ANA Maximum Stress, Unlined Cartons	5-3
5-2	ANA Strain at Rupture, Unlined Cartons	5-5
5-3	ANA Modulus, Unlined Cartons	5-7
5-4	ANB 'G'Maximum Stress, Unlined Cartons	5-9
5-5	ANB 'G' Strain at Rupture, Unlined Cartons	5-12
5-6	ANB 'G' Modulus, Unlined Cartons	5-15
5-7	ANB 'G' Maximum Stress, Lined Cartons	5-18
5-8	ANB 'G; Strain at Rupture, Lined Cartons	5-20
5-9	ANB 'G' Modulus, Lined Cartons	5-22
5-10	ANB 'P' Maximum Stress, Unlined Cartons	5-24
5-11	ANB 'P' Strain at Rupture, Unlined Cartons	5-28
5-12	ANB 'P' Modulus, Unlined Cartons	5-32
5-13	ANB 'P' Maximum Stress, Lined Cartons	5-36
5-14	ANB 'P' Strain at Rupture, Lined Cartons	5-38
5-15	ANB 'P' Modulus, Lined Cartons	5-40
5-16	ANT Maximum Stress, Unlined Cartons	5-42
5-17	ANT Strain at Rupture, Unlined Cartons	5-45
5-18	ANT Modulus, Unlined Cartons	5-48
5-19	ANT 'P' Maximum Stress, Lined Cartons	5-51
5-20	ANT 'P' Strain at Rupture, Lined Cartons	5-53
5-21	ANT 'P' Modulus, Lined Cartons	5-55
5-22	ANA 'G' & ANB 'G' Maximum Stress, Unlined Cartons	5-57
5-23	ANA 'G' & ANB 'G' Strain at Rup, Unlined Cartons	5-61
5-24	ANA 'G' & ANB 'G' Modulus, Unlined Cartons	5-65
5-25	ANB 'G' & 'P' Maximum Stress, Unlined Cartons	5-69
5-26	ANB 'G' & 'P' Strain at Rupture, Unlined Cartons	5-74

LIST OF FIGURES (cont)

Figure Nr		Page
5-27	ANB 'G' & 'P' Modulus, Unlined Cartons	5-79
5-28	ANB 'G' & 'P' Maximum Stress, Lined Cartons	5-84
5-29	ANB 'G' & 'P' Strain at Rupture, Lined Cartons	5-86
5-30	ANB 'G' & 'P' Modulus, Lined Cartons	5-88
5-31	ANT 'P' & ANB 'P' Maximum Stress, Unlined Cartons	5-90
5-32	ANT 'P' & ANB 'P' Strain at Rup, Unlined Cartons	5-94
5-33	ANT 'P' & ANB 'P' Modulus, Unlined Cartons	5-98
5-34	ANT 'P' & ANB 'P' Maximum Stress, Lined Cartons	5-102
5-35	ANT 'P' & ANB 'P' Strain at Rupture, Lined Cartons	5-104
5-36	ANT 'P' & ANB 'P' Modulus, Lined Cartons	
	Data Plots, Stress RElaxation Master Plot	
6-1	ANA Unlined Cartons	6-3
6-2	'G' Polymer Unlined Cartons	6-4
6-3	'G' Polymer Lined Cartons	6-5
6-4	'P' Polymer Unlined Cartons	6-6
6-5	'P' Polymer Lined Cartons	6-7
6-6	ANT 'P' Polymer Unlined Cartons	6-8
6-7	ANT Polymer Lined Cartons	6-9
	Data Plots, Stress Relaxation Modulus, 1% Strain	
6-8	ANA 'G' Polymer Unlined Cartons, 10 sec	6-10
6-9	ANA 'G' Polymer Unlined Cartons, 1000 sec	6-12
6-10	'G' Polymer Unlined Cartons, 10 sec	6-14
6-11	'G' Polymer Unlined Cartons, 1000 sec	6-17
6-12	ANB 'G' Polymer Lined Cartons, 10 sec	6-20
6-13	ANB 'G' Polymer Lined Cartons, 1000 sec	6-22
6-14	ANB 'P' Polymer Unlined Cartons, 10 sec	6-24
6-15	ANB 'P' Polymer Unlined Cartons, 1000 sec	6-26
6-16	ANB 'P' Polymer Lined Cartons, 10 sec	6-28
6-17	ANB 'P' Polymer Lined Cartons, 1000 sec	6-30
6-18	ANT 'P' Polymer Unlined Cartons, 10 sec	6-32
6-19	ANT 'P' Polymer Unlined Cartons, 1000 sec	6-34
6-20	ANT 'P' Polymer Lined Cartons, 10 sec	6-36
6-21	ANT 'P' Polymer Lined Cartons, 1000 sec	6-38

LIST OF FIGURES (cont)

Figure Nr		Page
6-22	ANA 'G' & ANB 'G' Polymer, Unlined, 10 sec	6-40
6-23	ANA 'G' & ANB 'G' Polymer, Unlined, 1000 sec	6-43
6-24	ANB 'G' & 'P' Polymer Unlined Cartons, 10 sec	6-46
6-25	ANB 'G' & 'P' Polymer Unlined Cartons, 1000 sec	6-49
6-26	ANB 'G' & 'P' Polymer Lined Cartons, 10 sec	6-52
6-27	ANB 'G' & 'P' Polymer Lined Cartons, 1000 sec	6-54
6-28	ANT 'P' & ANB 'P' Polymer, Unlined, 10 sec	6-56
6-29	ANT 'P' & ANB 'P' Polymer, Unlined, 1000 sec	6-59
6-30	ANT 'P' & ANB 'P' Polymer, Lined, 10 sec	6-62
6-31	ANT 'P' & ANB 'P' Polymer, Unlined, 1000 sec	6-64
6-32	ANB & ANT Gradient Stress Relaxation Modulus, 6 sec	6-66
6-33	ANB & ANT Gradient Stress Relaxation Modulus 60 Sec	6-67
6-34	ANB & ANT Gradient Stress Relaxation Modulus 120 sec	6-68
6-35	ANB & ANT Gradient Stress Relaxation Modulus 1000 sec	6-69
	Data Plots, Case Bond Tensile	
8-1	ANB Log Tive vs Log Stress	8-4
8-2	ANT Log Time vs Log Stress	8-5
	Data Plots, Case Bond Shear	
8-3	ANB Log Time vs Log Stress	8-6
8-4	ANT Log Time vs Log Stress	8-7
	Data Plots, Other Tensile Data Comparisons	
10-1	ANB-3066 Tensile Max Stress	10-2
10-2	ANB-3066 Tensile Max Stress	10-3
10-3	ANB-3066 Tensile Strain at Rupture	10-5
10-4	ANB-3066 Tensile Strain at Rupture	10-6
10-5	ANB-3066 Tensile Modulus	10-8
10-6	ANB-3066 Tensile Modulus	10-9
10-7	ANB-3066 High Rate Hydrostatic Tensile Maximum Stress	10-11
10-8	ANB-3066 High Rate Hydrostatic Tensile Maximum Stress	10-12

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LIST OF FIGURES (cont)

Figure Nr		Page
10-9	ANB-3066 High Rate Hydrostatic Tensile Strain at Rupture	10-14
10-10	ANB-3066 High Rate Hydrostatic Tensile Strain at Rupture	10-15
10-11	ANB-3066 High Rate Hydrostatic Tensile Modulus	10-17
10-12	ANB-3066 High Rate Hydrostatic Tensile Modulus	10-18

REFERENCES

Report Nr	Title	Date
MAGCP 75 (67)	Zero Time Test Results LGM-30 Second Stage Wing VI Propellant	13 Jan 67
MAGCP 111 (67)	ATP Test Results LGM-30 Stage II Propellant Wing VI, Phase I	1 Dec 67
MAGCP 142 (68)	ATP Test Results LGM-30, Stage II Propellant, Wing VI, Phase I Series II	Nov 68
MAGCP 188 (70)	ATP Test Results LGM-30, Stage II Propellant, Wing VI, Phase I Series II	Jul 70
MAGCP 212 (71)	Propellant Surveillance Report LGM-30 Stage II (Wing 6 ANB-3066)	Jun 71
MAGCP 240 (72)	Propellant Surveillance Report LGM-30F Stage II ANB-3066	May 72
MAGCP 256 (72)	Propellant Surveillance Report Minuteman III, Stage III	Oct 72
MANCP 331 (75)	Propellant Surveillance Report Minuteman III, Stage III	Oct 75
Aerojet 0162-AS-6-1A	Ten Year Aging Program for Wing VI Minuteman Second Stage Motors and Components	Sep 67
Aerojet 0162-06-SAAS-7		Oct 71
0162-06-SAAS-8		Apr 71
0162-06-SAAS-9	Ten Year Aging and Storage Program Wing VI Minuteman Second Stage Motors and Components Program Progress	Oct 71
0162-06-SAAS-10		Apr 72
0162-06-SAAS-11		Oct 72
0162-06-SAAS-12		Apr 73
0162-06-SAAS-13		Oct 74
0162-06-SAAS-14		Jul 75
0162-06-SAAS-15		Dec 75
0162-06-SAAS-16		Jul 76
0162-06-SAAS-17		Mar 77

REFERENCES (cont)

Report Nr	Title	Date
Aerojet 0162-06-AS-F Appendix E	Final Report, Wing VI Minuteman Second Stage Motor Propellant Aging	Jan 74
MVS-1	Manufacturing Variables, Study of The Minuteman Stage II Motor	11 Jun 76

GLOSSARY OF ABBREVIATIONS AND TERMS

Aging Trend	A change in properties of performance resulting from aging of material or component
ANA	Aerojet Propellant, Stage III (ANB 3066 Formulation)
ANT	Thiokol Propellant, Stage III (ANB 3066 Formulation)
ANB	Aerojet Propellant, Stage II (ANB 3066 Formulation)
ASPC	Aerojet Solid Propulsion Company
CSA	Cross Sectional Area
DB	Dogbone
Degradation	Gradual deterioration of properties or performance
E	Modulus (psi), defined as the slope of the line drawn tangent to the initial linear portion of the curve
EB	End Bonded
EGL	Effective Gage Length
e_m	Strain at Maximum Stress (in/in)
e_r	Strain at Rupture (in/in)
"F" ratio	The ratio of the variance accounted for by the regression function to the random unexplained variance. The regression function having the most significant "F" ratio is used for plotting data. The ratio is also used in detecting significant changes in random variation between succeeding time points.
JANNAF	Joint Army, Navy, NASA, Air Force Committee
MAGCP	Propellant Laboratory at OOAMA
OOALC	Ogden Air Logistics Command
Post Curing	Period up to 12-16 months after manufacture

GLOSSARY OF ABBREVIATIONS AND TERMS (CONT.)

Regression	The general form of the regression equation is $Y = a + bx$
Regression Line	Line representing mean test values with respect to time
S_b	Standard error of estimate of the regression coefficient
S_e or $S_{Y.X}$	Standard deviation of the data about the regression line
S_m	Maximum Stress (psi)
S_r	Stress at Rupture (psi)
Standard Deviation (S_y)	Square root of variance
Strain Rate	Crosshead speed divided by the EGL
Thiokol	Thiokol/Wasatch Division
"t" Test	A statistical test used to detect significant differences between a measured parameter and an expected value of the parameter (determines if regression slope differs from zero at the 95% confidence level)
Variance	The sum of squares of deviations of the test results from the mean of the series after division by one less than the total number of test results
3 Sigma Band	The area between the upper and lower 3 sigma limit. It can be expected that 99.73% of the inventory represented by the test samples would fall within this range assuming that the population is normally distributed.
90-90 Band	It can be stated with 90% confidence that 90% of the inventory represented by the test samples would fall within this range assuming that the population is normally distributed.

SECTION I
INTRODUCTION

A. PURPOSE:

The purpose of testing ANB-3066 propellant, used in Minuteman II Stage II and Minuteman III Stage II and Stage III, is to monitor and evaluate aging effects on this propellant which will contribute to the operational motor serviceability prediction. Testing was performed according to General Test Directive GTD-2C, Amendment 1, and MMWRM Project M82937C and M82938C.

B. BACKGROUND:

Service life testing of ANB-3066 carton propellant from Aerojet production began at Ogden ALC in 1966. When production for Minuteman III Stage II was transferred to Thiokol, the propellant samples from both Aerojet and Thiokol were tested. As lined cartons were produced these were tested, adding propellant liner bond specimens to the program. This report contains data from all these sources for propellant aged 13 to 137 months.

Failure criteria for ANB-3066 propellant which were developed from structural stress analysis are reiterated in Aerojet Report 0162-06SAAS-17. Inner bore hoop strain failure is the predicted failure mode. These criteria are shown in Table 1-1.

SECTION II
TEST PROGRAM

Cartons representing raw material combinations were subjected to a random selection process designed to test all material lots within a two year-four test periods interval. When propellant cartons have been aged one year, they are added to the test program.

Propellant cartons are identified by source of manufacture. Stage II and III propellant manufactured by Aerojet Solid Propulsion Company is identified as ANB and ANA respectively. Thiokol Company Stage III propellant is identified as ANT. All regressions used this nomenclature and the additional information as to the type of carton, lined or unlined. Symbols are used on multiple regressions to separate types. There were two suppliers for polymers for Stage II propellant, "G" polymer manufactured by General Tire and Rubber and "P" polymer from Phillips. Until recently, the extremely large variations in data from certain lots had been combined with cartons having neglible standard deviations. In this report the two polymer types have been treated statistically.

Stage II ANB-3066 propellant has been tested for more than 10 years, but in this report only propellant up to 72 months has been used in covariance analysis to coincide with the age span of Stage III propellant. Lined and unlined cartons of ANB have been combined in regression analysis for comparison purposes and cover the time span from 13 through 137 months.

The physical-mechanical tests which relate directly to stress analysis are limited. Very low rate tensile test data is related to storage

conditions, and high rate rails tested under pressure relate to ignition. Stress relaxation modulus also relates to storage conditions. Thermal coefficient of linear expansion reflects some of the thermal stresses to which the motor is exposed.

Low rate uniaxial tensile tests and hardness are routine tests for all propellant. These data have been subjected to statistical analyses in this report. Poisson's ratio and cohesive tear energy tests have been applied to only a portion of the cartons. Data from these tests will be more rigorously analyzed the next reporting period.

SECTION III
STATISTICAL SUMMARY AND CONCLUSIONS

Data analyses of all propellant tested by MANCP having the ANB 3066 formulation are contained in this report. ANB 3066 propellant is divided into three groups, each group pertaining to a specific rocket motor application. These propellant groups are further classified with regards to the manufacturer of the polymer contained in the propellant. The two manufacturers of ANB 3066 polymer are General Tire and Rubber ('G' type) and Phillips ('P' type). The three propellant groups are designated in this report as follows:

Code	Polymer Type	Manufacturer and System Application
ANA	G	Aerojet: MINUTEMAN III, Stage III
ANB	G and P	Aerojet: MINUTEMAN II, Stage II
ANT	P	Thiokol: MINUTEMAN III, Stage III

Propellant specimens for the ANA group were taken from unlined cartons and contains only "G" type polymer. Specimens for the ANB and ANT groups were taken from unlined cartons and also from cartons having a simulated case liner along one surface of the carton. Propellant from the ANB group contains both "G" and "P" type polymers. ANT propellant contains only "P" type polymer. Each propellant group is further sub-divided into propellant lots.

Test data were analyzed to test for similarities between propellant lots within a given propellant group, as well as polymer type and carton type. The following comparisons, directed by the project engineer, were performed in support of service life estimation:

1. Compare lined and unlined cartons of Minuteman III Stage III propellant manufactured by Thiokol. (ANT lined vs ANT unlined).

2. Compare Aerojet Stage II lined cartons (ANB propellant group) with Thiokol Stage III lined cartons. (ANB lined vs ANT lined).

3. Perform lot-to-lot comparisons for unlined cartons with 'G' type polymer from the ANA and ANB propellant groups (ANA 'G' vs ANB 'G').

4. Perform lot-to-lot comparisons for lined cartons with 'P' type polymer from the ANB and ANT propellant groups (ANB 'P' vs ANT 'P').

5. Compare unlined cartons with 'G' type polymer and unlined cartons with 'P' type polymer from the ANB propellant group. (ANB 'G' unlined vs ANB 'P' unlined).

6. Compare lined cartons with 'G' type polymer and lined cartons with 'P' type polymer from the ANB propellant group. (ANB 'G' lined vs ANB 'P' lined).

7. Perform lot-to-lot comparisons for each propellant group with a given polymer (ANA 'G' lots; ANB'G' lots; ANB 'P' lots; etc.,)

Propellant age is considered a possible source of bias in laboratory test data. That is, part of the observed differences in a given test response might be ascribed to propellant age. Because of the possible age effect it is necessary to provide a means of analysis where the bias, or age effect, could be removed allowing an unbiased evaluation of the true parameter response.

Analysis of covariance was chosen as the method to determine the effect or "significance" of propellant age on the test response. The general linear regression model, $Y = a + b(X_{ij})$, is modified for the analysis of covariance by introducing a "correction term" into the model to adjust the data for the average effect of the variable X_{ij}. Propellant age was assigned to the variable X_{ij} in this report.

Similarity among carton types and among propellant groups was determined by comparing regression lines for each of the data sets. The purpose was to examine whether the linear regressions of the test response on propellant age could be regarded as the same. It is possible for the regressions to differ in slope, intercept or residual variance. Differences due to slope could indicate dissimilar aging characteristics among groups while differences due to intercept could indicate bias among the data sets. When the regression lines were statistically similar (slopes and intercepts were not significantly different) the data sets were accepted as being equal and were combined to provide an expanded data base. A "total" or composite regression line was then used to estimate the aging trend for the combined data.

ANB 3066 propellant exhibits incomplete curing and inconsistent test results if aged less than 13 months. All data aged less than 12 months was excluded from analysis in this report.

In those cases where test data from various carton types or propellant groups could be combined, plots of the combined data and regression lines are provided. Carton types or propellant groups are differentiated on these plots with different plotting symbols. These are shown in the applicable test sections. In addition to the combined regression plots, plots of individual group regression lines have been provided for each test parameter where the regression slope is statistically significant.

Test data for JANNAF dogbones tested at 2.0 in/min crosshead speed and short 3/4" dogbones tested under 600 psi N_2 at 1750 in/min crosshead speed were not subjected to analysis of covariance. Data from these tests were compared by plotting regression lines for each group on the same graph to

allow visual comparison of regression lines. In addition to these graphs, Tables 10-1 thru 10-6 show regression statistics for each data group.

The results of the analyses performed are summarized as follows:

1. ANT lined and unlined cartons are significantly different for all observed test parameters.

2. ANB and ANT lined cartons are significantly different for all observed test parameters.

3. ANA and ANB unlined cartons with the 'G' type polymer are significantly different.

4. ANB and ANT lined cartons with 'P' polymer have significantly different regression slopes.

5. ANB and ANT unlined cartons with 'G' polymer, and unlined cartons with 'P' polymer show no similarities for observed test parameters.

6. ANB 'G' lined cartons and ANB 'P' lined cartons are significantly different for all observed parameters.

7. Significant lot-to-lot differences due either to regression slope or intercept are indicated for all propellant groups and tests with the following exception:

Propellant lots are similar for the ANB 'P' propellant from unlined cartons on the tensile test at 0.0002 in/min crosshead speed and stress relaxation modulus at 10 seconds relaxation time. The results are shown in Table 3-1.

A comparison of the standard diviations for three major tests is shown in Table 3-2. The standard deviation is very high for ANB "P" propellant from unlined cartons. ANT "P" unlined cartons show a similar high standard deviation, which is reflected in the combinations of ANB "G" and "P" and ANB and ANT "P" unlined cartons.

A less consistent pattern of standard deviation is shown in the high rate triaxial test. However, the combination of ANB "G" and "P" unlined cartons shows very high standard deviation.

Stress relaxation modulus also shows greater standard deviation for unlined cartons of "P" polymer which was used by Aerojet.

In summary, it may be concluded that the great variability in trend lines shown in previous reports can be related to the fact that two polymer sources were used in the manufacture of ANB-3066 propellant, as well as two manufacturers. The greater variability of "P" polymer is apparent from Table 3-2. Since there are also lot-to-lot differences to reconcile, it is not unreasonable to find that the standard deviation is affected by the lots tested.

TABLE 3-1

Covariance Analysis
Summary of Significance

Propellant Group	VLR			HR Triaxial Tensile			Stress Relax 1% Strain	
	Sm	er	E	Sm	er	E	E_{10}	E_{1000}
ANA "G" Unlined	Sig Slopes	Sig Slopes	Sig Intercepts	Sig Slopes	Sig Intercepts	Sig Intercepts	Sig Slopes	Sig Slopes
ANB "G" Lined	Sig Slopes	Sig Slopes	Sig Slopes	Sig Slopes	Sig Slopes	Sig Slopes	Sig Intercepts	Sig Slopes
ANB "G" Unlined	Sig Slopes	Sig Slopes	Sig Slopes	Sig Slopes	Sig Slopes	Sig Slopes	Sig Intercepts	Sig Intercepts
ANB "P" Lined	N.S.	N.S.	N.S.	Sig Slopes	Sig Slopes	Sig Slopes	N.S.	Sig Intercepts
ANB "P" Unlined	Sig Slopes	Sig Intercepts	Sig Intercepts	Sig Slopes	Sig Slopes	Sig Slopes	Sig Slopes	Sig Intercepts
ANT "P" Lined	Sig Intercepts	Sig Slopes	Sig Slopes	Sig Slopes	Sig Slopes	Sig Intercepts	Sig Slopes	Sig Slopes
ANT "P" Unlined	Sig Slopes	Sig Slopes	Sig Intercepts	Sig Slopes	Sig Slopes	Sig Slopes	Sig Intercepts	Sig Slopes

TABLE 3-2

COMPARISON OF STANDARD DEVIATION

PROPELLANT TYPE	Very Low Rate			High Rate Triaxial			Stress Relaxation	
	Sm	er	E	Sm	er	E	10 sec	1000 sec
ANA G Unlined	6.084	.0169	71.29	34.86	.0206	824.96	195.36	105,94
ANB G Unlined	7.949	.0189	98.49	39.16	.0317	1410.95	193.85	108.94
ANB G Lined	5.778	.0204	87.75	27.97	.0132	637.80	102.53	58.23
ANB P Unlined	8.2149	.0345	131.60	38.95	.0305	1435.50	230.11	141.38
ANB P Lined	6.257	.0214	81.50	39.41	.0184	610.73	106.62	67.58
ANT P Unlined	8.924	.0199	100.87	33.09	.0304	940.36	151.93	93.88
ANT P Lined	6.642	.0148	73.95	27.41	.0253	610.53	123.05	74.20
ANA & ANB G Unlined	7.689	.0186	94.35	38.74	.0312	1341.64	190.24	116.49
ANB G & P Unlined	8.253	.0249	116.39	43.19	.0318	1427.03	230.11	138.25
ANB G & P Lined	6.316	.0210	84.40	38.47	.0171	632.97	104.20	62.42
ANB & ANT P Unlined	8.367	.0286	125.02	37.08	.0340	1326.81	195.62	119.51
ANB & ANT P Lined	7.041	.0180	79.87	33.59	.0225	608.72	118.44	72.38

SECTION IV
VERY LOW RATE TENSILE

This test uses a 1/2 inch thick (1.27cm) JANNAF dogbone. The specimens are tested at a crosshead speed of 2×10^{-4} in/min (8.5×10^{-2} cm/sec) 77°F (250°C) and ambient RH. Very low rate tensile testing is related to strain capability for storage at 60°F.

Lined cartons show a statistically significant decrease in strain at rupture. This holds true for both polymer types and for combinations. (Figures 4-8, 4-14, 4-20, 4-29 and 4-35.) Maximum stress and modulus are statistically increased. (Figures 4-7, 4-13, 4-19, 4-28, 4-34 and 4-9; 4-15, 4-21, 4-30 and 4-36).

Maximum stress shows a statistically significant increase except for the combination ANA and ANBG unlined cartons, where the increase is not significant. (Figures 4-1, 4-4, 4-10, 4-16, 4-25, 4-31 and 4-32).

As previously noted, strain at rupture decreases significantly in lined cartons. Unlined cartons show a statistically significant increase except for ANA where the increase is not significant. (Figures 4-5, 4-11, 4-17, 4-23, 4-26, 4-32 and 4-2).

Modulus is the least consistent of the parameters since unlined cartons show both increases and decreases which may be significant or not significant.

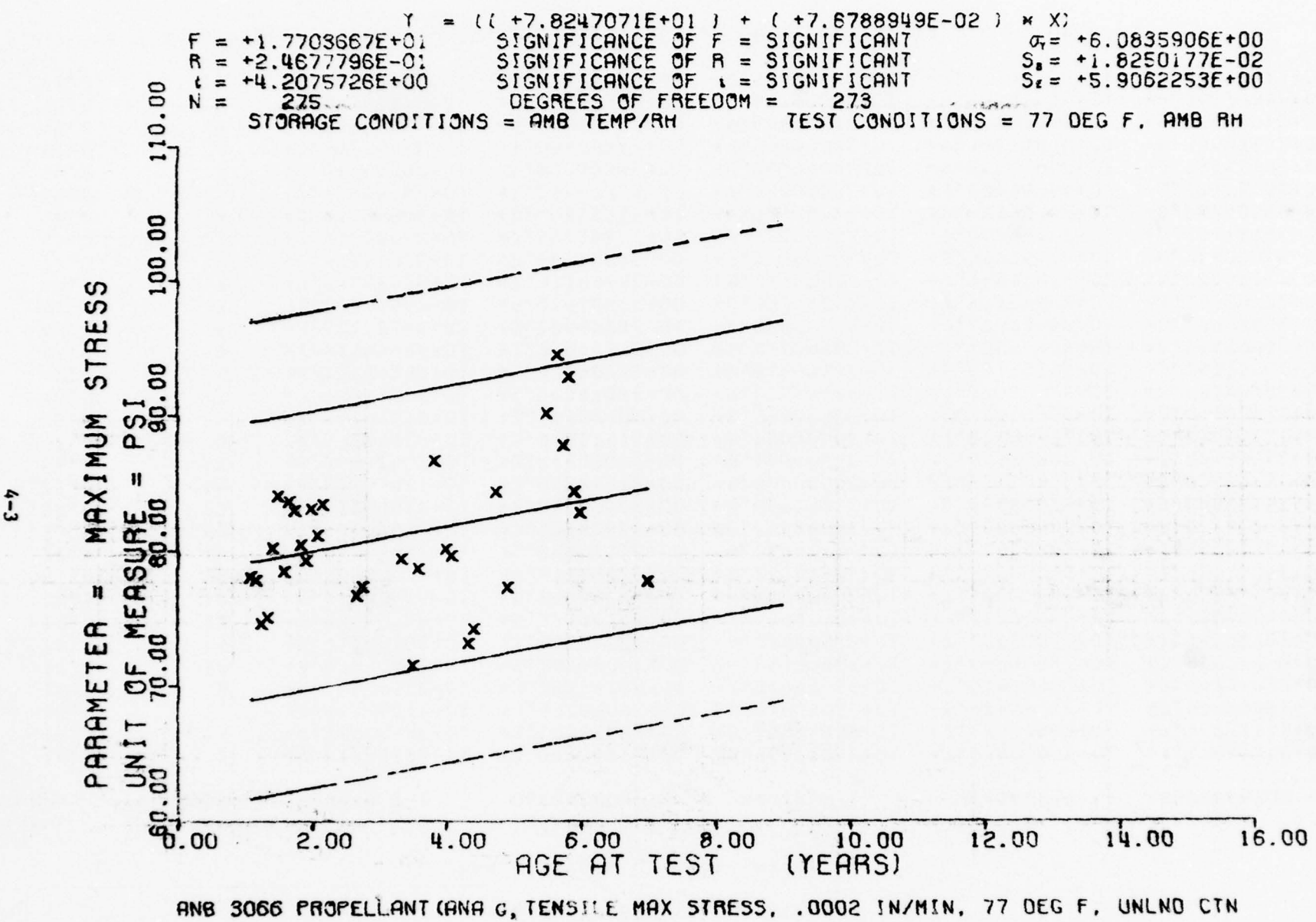
Unlined cartons of "P" polymer have a lower strain at rupture than "G" polymer and show a greater standard deviation. Unlined cartons have a lower strain at rupture than lined cartons regardless of polymer type.

In summary, lined cartons show greater consistency than unlined cartons with lower standard deviations.

TABLE 4-1
VERY LOW RATE TENSILE

Significance of "t"

SYSTEM	Sm	Fig	er	Fig	E	Fig
ANA G Unlined	Sig inc	4-1	NS inc	4-2	NS inc	4-3
ANB G Unlined	Sig inc	4-4	Sig inc	4-5	Sig dec	4-6
ANB G Lined	Sig inc	4-7	Sig dec	4-8	Sig inc	4-9
ANB P Unlined	Sig inc	4-10	Sig inc	4-11	Sig dec	4-12
ANB P Lined	Sig inc	4-13	Sig dec	4-14	Sig inc	4-15
ANT P Unlined	Sig inc	4-16	Sig inc	4-17	Sig inc	4-18
ANT P Lined	Sig inc	4-19	Sig dec	4-20	Sig inc	4-21
ANA & ANB G Unlined	NS inc	4-22	Sig inc	4-23	Sig dec	4-24
ANB G & P Unlined	Sig inc	4-25	Sig inc	4-26	Sig dec	4-27
ANB G & P Lined	Sig inc	4-28	Sig dec	4-29	Sig inc	4-30
ANB & ANT P Unlined	Sig inc	4-31	Sig inc	4-32	NS dec	4-33
ANB & ANT P Lined	Sig inc	4-34	Sig dec	4-35	Sig inc	4-36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R = +2.4677796E-01 SIGNIFICANCE OF R = SIGNIFICANT Sb = +1.8250177E-02
t = +4.2075726E+00 SIGNIFICANCE OF t = SIGNIFICANT Se = +5.9062253E+00
N = 275 DEGREES OF FREEDOM = 273
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = MAXIMUM STRESS
UNIT OF MEASURE = PSI
110.00
100.00
90.00
80.00
70.00
60.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPELLANT (ANA G, TENSILE MAX STRESS, .0002 IN/MIN, 77 DEG F, UNLND CTN

Figure 4-1

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	5	+7.8139938E+01	+3.0443391E+00	+8.2699996E+01	+7.4399993E+01	+7.9245315E+01
14.0	16	+7.7899948E+01	+3.1051766E+00	+8.2599990E+01	+7.2699996E+01	+7.9222113E+01
15.0	14	+7.4685607E+01	+3.4370309E+00	+8.1199996E+01	+6.9299987E+01	+7.9398895E+01
16.0	5	+7.5159957E+01	+3.2883476E+00	+7.9199996E+01	+7.0199996E+01	+7.9475692E+01
17.0	10	+8.0269943E+01	+5.1623995E+00	+8.8199996E+01	+7.4799987E+01	+7.9552474E+01
18.0	15	+8.4119918E+01	+3.8621899E+00	+9.2899993E+01	+7.7199996E+01	+7.9629272E+01
19.0	13	+7.8546096E+01	+6.3249474E+00	+9.1599990E+01	+7.1199996E+01	+7.9706054E+01
20.0	12	+8.3733245E+01	+5.1463979E+00	+9.2399993E+01	+7.5000000E+01	+7.9782836E+01
21.0	15	+8.3039901E+01	+5.6716907E+00	+9.2599990E+01	+7.3699996E+01	+7.9859634E+01
22.0	14	+8.0528503E+01	+5.0799171E+00	+9.1199996E+01	+7.2199996E+01	+7.9936416E+01
23.0	10	+7.9339904E+01	+3.6055262E+00	+8.7899993E+01	+7.5199996E+01	+8.0013214E+01
24.0	10	+8.3189941E+01	+6.0060061E+00	+8.9299987E+01	+6.8899993E+01	+8.0089996E+01
25.0	15	+8.1226593E+01	+3.9112141E+00	+9.0000000E+01	+7.6399993E+01	+8.0166793E+01
26.0	15	+8.3493240E+01	+3.8780009E+00	+9.1000000E+01	+7.6599990E+01	+8.0243576E+01
32.0	5	+7.6779922E+01	+3.9791797E+00	+8.1000000E+01	+7.0299987E+01	+8.0704315E+01
33.0	5	+7.7419967E+01	+2.4452230E+00	+8.0399993E+01	+7.3899993E+01	+8.0781097E+01
40.0	5	+7.9505950E+01	+1.5409702E+00	+8.0769989E+01	+7.7250000E+01	+8.1318618E+01
42.0	5	+7.1579925E+01	+3.8764027E+00	+7.6649993E+01	+6.6619995E+01	+8.1472198E+01
43.0	5	+7.8759948E+01	+1.2004833E+00	+8.0159988E+01	+7.7379989E+01	+8.1548995E+01
46.0	5	+8.6717864E+01	+5.7864520E-01	+8.7559997E+01	+8.6239990E+01	+8.1779357E+01
48.0	3	+8.0226654E+01	+4.2191657E+00	+8.3079986E+01	+7.5379989E+01	+8.1932937E+01
49.0	7	+7.9714202E+01	+1.3715968E+00	+8.0879989E+01	+7.7459991E+01	+8.2009719E+01
52.0	8	+7.3221191E+01	+2.8677899E+00	+7.6729995E+01	+6.9839996E+01	+8.2240081E+01
53.0	11	+7.4310806E+01	+2.8911881E+00	+7.9119995E+01	+7.0629989E+01	+8.2316879E+01
57.0	3	+8.4439987E+01	+8.4981377E-01	+8.5299987E+01	+8.3599990E+01	+8.2624038E+01
59.0	5	+7.7349945E+01	+1.1144771E+00	+7.8500000E+01	+7.5869995E+01	+8.2777618E+01
66.0	3	+9.0196609E+01	+1.0900035E+00	+9.0929992E+01	+8.8949996E+01	+8.3315139E+01
68.0	3	+9.4586578E+01	+1.0548824E+00	+9.5539993E+01	+9.3469985E+01	+8.3468719E+01
69.0	9	+8.7852127E+01	+4.4864500E+00	+9.4549987E+01	+8.0199996E+01	+8.3545501E+01
70.0	8	+9.2936157E+01	+2.0646839E+00	+9.6379989E+01	+9.0099990E+01	+8.3622283E+01
71.0	10	+8.4438888E+01	+7.0187119E+00	+9.5329986E+01	+7.4579986E+01	+8.3699081E+01

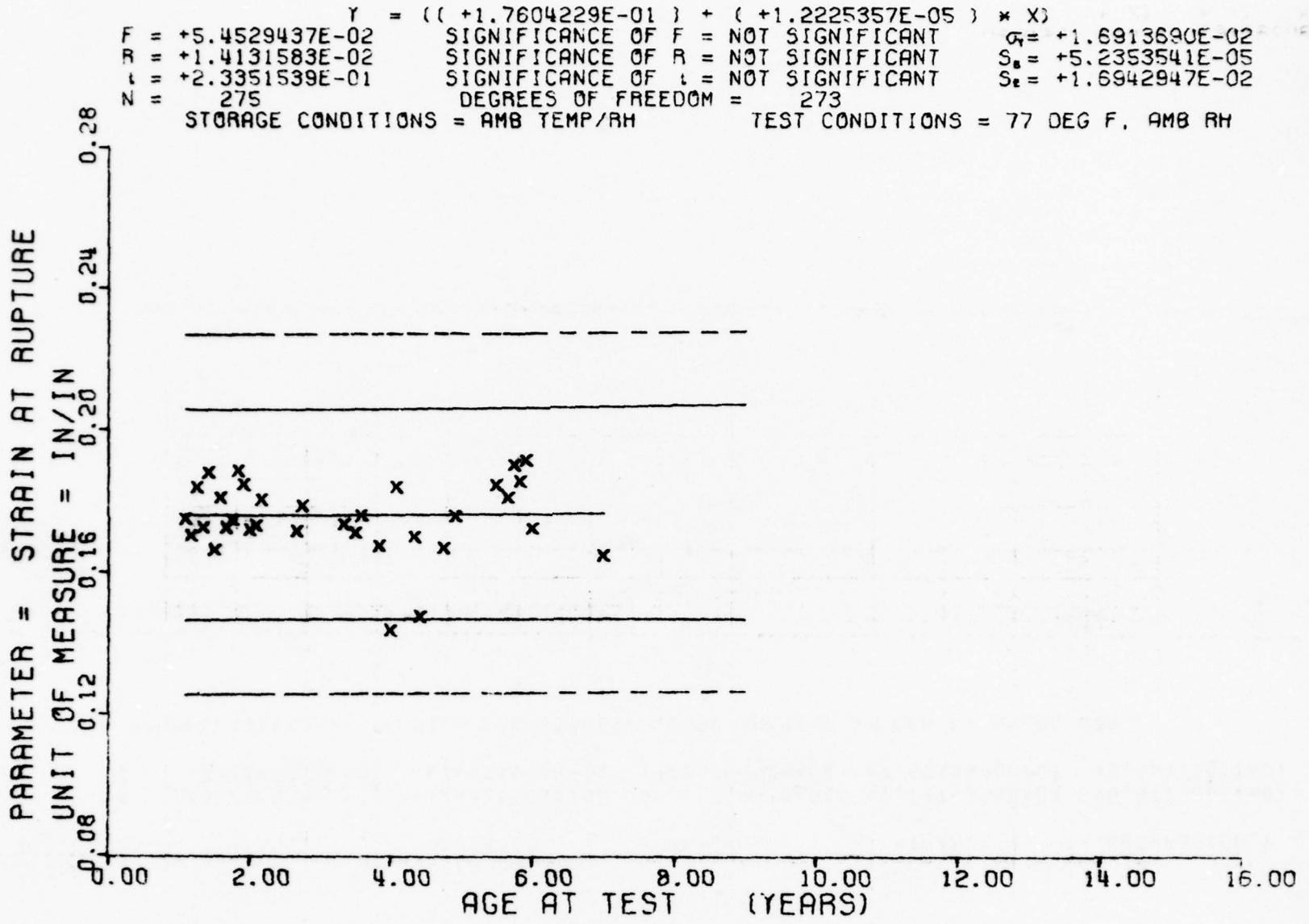
ANB 3066 PROPELLANT(ANA), TENSILE MAX STRESS, .0002 IN/MIN, 77 DEG F, UNLND CTN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
72.0	3	+8.2909988E+01	+1.4826656E+00	+8.4179992E+01	+8.1279998E+01	+8.3775863E+01
84.0	3	+7.7796661E+01	+8.6471586E-01	+7.8679992E+01	+7.6949996E+01	+8.4697341E+01

ANB 3066 PROPELLANT(ANAL, TENSILE MAX STRESS, .0002 IN/MIN, 77 DEG F, UNLND CTN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R = +1.4131583E-02 SIGNIFICANCE OF R = NOT SIGNIFICANT
t = +2.3351539E-01 SIGNIFICANCE OF t = NOT SIGNIFICANT
N = 275 DEGREES OF FREEDOM = 273
STORAGE CONDITIONS = AMB TEMP/RH
TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = STRAIN AT RUPTURE
UNIT OF MEASURE = IN/IN
0.08
0.12
0.16
0.20
0.24
0.28
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPELLANT (ANA G, TENSILE STN AT RUPT, .0002 IN/MIN, 77 DEG F, UNLND CT

Figure 4-2

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	5	+1.7519992E-01	+1.2773825E-02	+1.9199997E-01	+1.5799999E-01	+1.7620116E-01
14.0	16	+1.7043709E-01	+1.0196974E-02	+1.8599998E-01	+1.5199995E-01	+1.7621344E-01
15.0	14	+1.8414264E-01	+7.3393774E-03	+1.9999998E-01	+1.7399996E-01	+1.7622566E-01
16.0	5	+1.7279994E-01	+1.3534388E-02	+1.8199998E-01	+1.5199995E-01	+1.7623788E-01
17.0	10	+1.8819969E-01	+1.4653152E-02	+2.1199995E-01	+1.6599994E-01	+1.7625010E-01
18.0	15	+1.6646635E-01	+1.3262997E-02	+2.0499998E-01	+1.5199995E-01	+1.7626231E-01
19.0	13	+1.8115353E-01	+2.0616690E-02	+2.1599996E-01	+1.5399998E-01	+1.7627453E-01
20.0	12	+1.7274963E-01	+1.9492088E-02	+2.1699994E-01	+1.4999997E-01	+1.7628675E-01
21.0	15	+1.7493295E-01	+1.4203486E-02	+2.0399999E-01	+1.5399998E-01	+1.7629897E-01
22.0	14	+1.8871390E-01	+2.2528999E-02	+2.3599994E-01	+1.6399997E-01	+1.7631119E-01
23.0	10	+1.8489980E-01	+7.6686292E-03	+1.9399994E-01	+1.7199999E-01	+1.7632347E-01
24.0	10	+1.7209982E-01	+9.6669671E-03	+1.8899995E-01	+1.5799999E-01	+1.7633569E-01
25.0	15	+1.7326629E-01	+1.1778330E-02	+1.9699996E-01	+1.5599995E-01	+1.7634791E-01
26.0	15	+1.8073290E-01	+1.2713360E-02	+2.0899999E-01	+1.6399997E-01	+1.7636013E-01
32.0	5	+1.7179995E-01	+1.6589032E-02	+1.9699996E-01	+1.5399998E-01	+1.7643344E-01
33.0	5	+1.7899996E-01	+5.9975435E-03	+1.8599998E-01	+1.7399996E-01	+1.7644572E-01
40.0	5	+1.7375993E-01	+7.5973533E-03	+1.8319994E-01	+1.6559994E-01	+1.7653125E-01
42.0	5	+1.7135995E-01	+4.1703113E-03	+1.7759996E-01	+1.6719996E-01	+1.7655575E-01
43.0	5	+1.7631995E-01	+6.7000328E-03	+1.8199998E-01	+1.6559994E-01	+1.7656797E-01
46.0	5	+1.6783994E-01	+7.2080856E-03	+1.7679995E-01	+1.5759998E-01	+1.7660462E-01
48.0	3	+1.4399993E-01	+4.8671851E-03	+1.4959996E-01	+1.4079999E-01	+1.7662906E-01
49.0	7	+1.8431401E-01	+2.5394721E-02	+2.0759999E-01	+1.3999998E-01	+1.7664128E-01
52.0	8	+1.7034983E-01	+8.3068276E-03	+1.8079996E-01	+1.5839999E-01	+1.7667800E-01
53.0	11	+1.4792698E-01	+1.1015020E-02	+1.7119997E-01	+1.3439995E-01	+1.7669022E-01
57.0	3	+1.6719990E-01	+1.0347002E-02	+1.7639994E-01	+1.5599995E-01	+1.7673909E-01
59.0	5	+1.7607992E-01	+7.9655548E-03	+1.8499994E-01	+1.6439998E-01	+1.7676353E-01
66.0	3	+1.8489992E-01	+1.4643095E-02	+1.9379997E-01	+1.6799998E-01	+1.7684912E-01
68.0	3	+1.8133330E-01	+7.6865160E-03	+1.8959999E-01	+1.7439997E-01	+1.7687356E-01
69.0	9	+1.9054418E-01	+1.4302212E-02	+2.0979994E-01	+1.6999995E-01	+1.7688578E-01
70.0	8	+1.8589985E-01	+1.9768573E-02	+2.0799994E-01	+1.5359997E-01	+1.7689806E-01
71.0	10	+1.9182968E-01	+2.4107905E-02	+2.3399996E-01	+1.6079998E-01	+1.7691028E-01

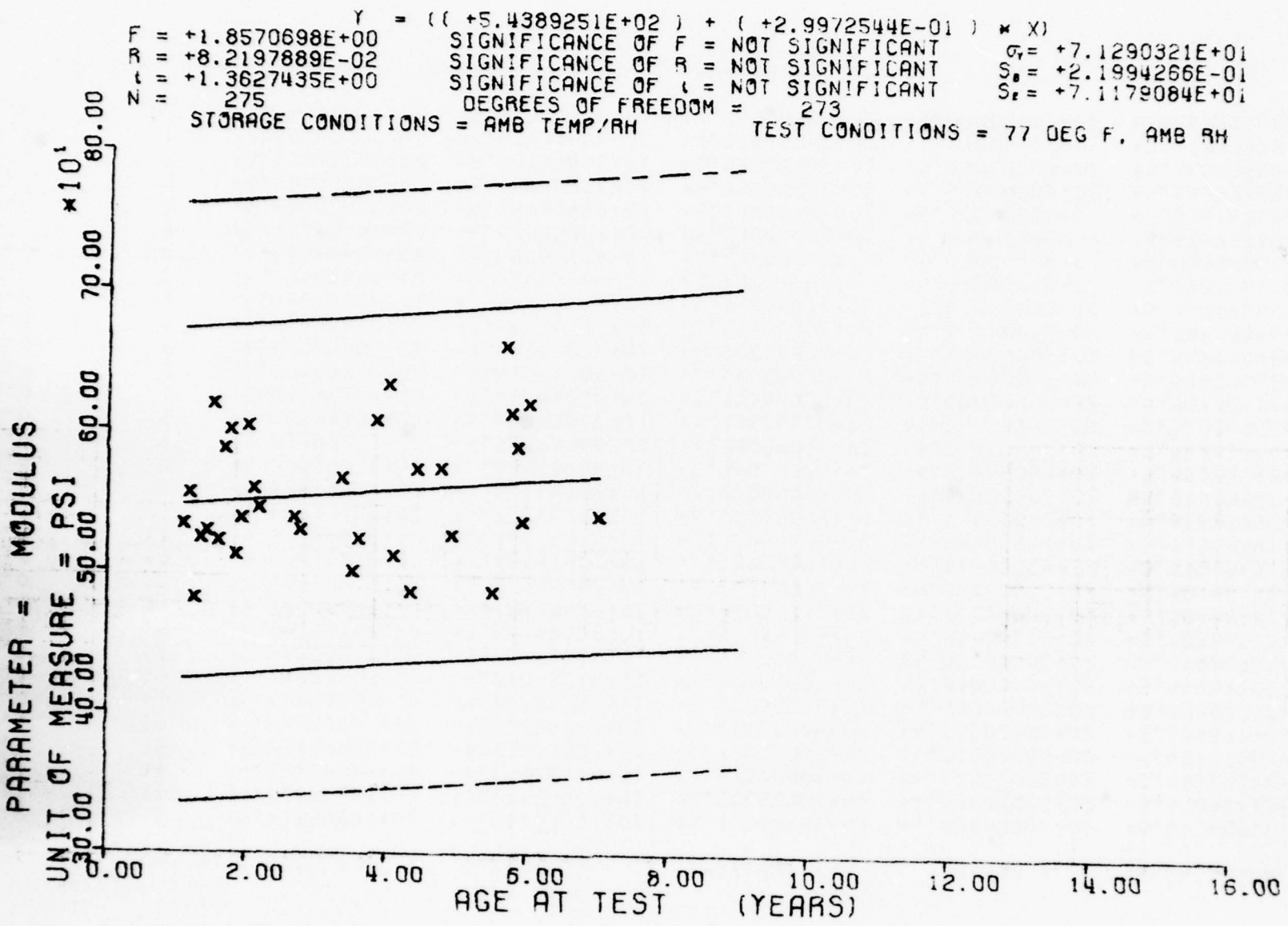
ANB 3066 PROPELLANT(ANA), TENSILE STN AT RUPT, .0002 IN/MIN, 77 DEG F, UNLND CT

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
72.0	3	+1.7266660E-01	+8.1462852E-03	+1.7809998E-01	+1.6329997E-01	+1.7692250E-01
84.0	3	+1.6503328E-01	+8.5042296E-03	+1.7369997E-01	+1.5669995E-01	+1.7706918E-01

AN8 3066 PROPELLANT(ANA), TENSILE STN AT RUPT, .0002 IN/MIN, 77 DEG F, UNLND CT



ANB 3066 PROPELLANT (ANA G, TENSILE MODULUS, 0.0002 IN/MIN, 77 DEG F, UNLND CTN

Figure 4-3

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	5	+5.3339990E+02	+4.0525300E+01	+5.8200000E+02	+4.9000000E+02	+5.4778881E+02
14.0	16	+5.5587500E+02	+3.4711909E+01	+5.9600000E+02	+4.6200000E+02	+5.4908862E+02
15.0	14	+4.8128564E+02	+4.1586663E+01	+5.4700000E+02	+4.1200000E+02	+5.4838818E+02
16.0	5	+5.2379980E+02	+4.7525782E+01	+5.7300000E+02	+4.7100000E+02	+5.4868798E+02
17.0	10	+5.2889990E+02	+6.2722404E+01	+6.2500000E+02	+4.5500000E+02	+5.4898779E+02
18.0	15	+6.1866650E+02	+5.1422155E+01	+6.7000000E+02	+4.9500000E+02	+5.4928735E+02
19.0	13	+5.2192285E+02	+8.8604421E+01	+6.5300000E+02	+3.8300000E+02	+5.4958715E+02
20.0	12	+5.8691650E+02	+7.5614402E+01	+6.7500000E+02	+4.4800000E+02	+5.4988696E+02
21.0	15	+6.0046655E+02	+7.2628080E+01	+7.3300000E+02	+4.9000000E+02	+5.5018652E+02
22.0	14	+5.1200000E+02	+7.5872362E+01	+6.3100000E+02	+3.7700000E+02	+5.5048632E+02
23.0	10	+5.3789990E+02	+6.2245838E+01	+6.1800000E+02	+4.5300000E+02	+5.5078613E+02
24.0	10	+6.0350000E+02	+7.6664130E+01	+7.1500000E+02	+4.6200000E+02	+5.5108569E+02
25.0	15	+5.5926660E+02	+7.4676891E+01	+7.0200000E+02	+4.6200000E+02	+5.5138549E+02
26.0	15	+5.4553320E+02	+5.7211221E+01	+6.1100000E+02	+4.5300000E+02	+5.5168530E+02
32.0	5	+5.3859985E+02	+5.1916278E+01	+5.9100000E+02	+4.5900000E+02	+5.5348364E+02
33.0	5	+5.2959985E+02	+3.0566321E+01	+5.6400000E+02	+4.8000000E+02	+5.5378344E+02
40.0	5	+5.6679980E+02	+4.3378566E+01	+6.3800000E+02	+5.3300000E+02	+5.5588134E+02
42.0	5	+5.0079980E+02	+5.1939387E+01	+5.8600000E+02	+4.5800000E+02	+5.5648095E+02
43.0	5	+5.2379980E+02	+1.4131525E+01	+5.3500000E+02	+5.0000000E+02	+5.5678051E+02
46.0	5	+6.0719995E+02	+3.5195170E+01	+6.5800000E+02	+5.7000000E+02	+5.5767968E+02
48.0	3	+6.3300000E+02	+7.4276510E+01	+6.9000000E+02	+5.4900000E+02	+5.5827929E+02
49.0	7	+5.1142846E+02	+5.6653499E+01	+6.1000000E+02	+4.6500000E+02	+5.5857885E+02
52.0	9	+4.8600000E+02	+2.5444617E+01	+5.3400000E+02	+4.4900000E+02	+5.5947802E+02
53.0	11	+5.7318164E+02	+2.9946012E+01	+6.1900000E+02	+5.2700000E+02	+5.5977783E+02
57.0	3	+5.7366650E+02	+3.8070110E+01	+6.1300000E+02	+5.3700000E+02	+5.6097680E+02
59.0	5	+5.2619995E+02	+6.6858058E+00	+5.3500000E+02	+5.1900000E+02	+5.6157617E+02
66.0	3	+4.8600000E+02	+4.8538644E+01	+5.1600000E+02	+4.3000000E+02	+5.6367431E+02
68.0	3	+6.6066650E+02	+1.0692676E+01	+6.7300000E+02	+6.5400000E+02	+5.6427368E+02
69.0	9	+6.1311109E+02	+6.5071968E+01	+6.9300000E+02	+5.0400000E+02	+5.6457348E+02
70.0	8	+5.8900000E+02	+8.8272305E+01	+7.3100000E+02	+5.0700000E+02	+5.6487329E+02
71.0	10	+5.3609985E+02	+9.5861532E+01	+7.1600000E+02	+4.0300000E+02	+5.6517285E+02

ANB 3066 PROPELLANT(ANA), TENSILE MODULUS, 0.0002 IN/MIN, 77 DEG F, UNLND CTN

****** LINEAR REGRESSION ANALYSIS ******

***** ANALYSIS OF TIME SERIES *****

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
72.0	3	+6.1966650E+02	+4.6188021E+00	+6.2500000E+02	+6.1700000E+02	+5.6547265E+02
84.0	3	+5.4033325E+02	+3.0369941E+01	+5.7400000E+02	+5.1500000E+02	+5.6906933E+02

ANB 3066 PROPELLANT(ANA), TENSILE MODULUS, 0.0002 IN/MIN, 77 DEG F, UNLND CTN

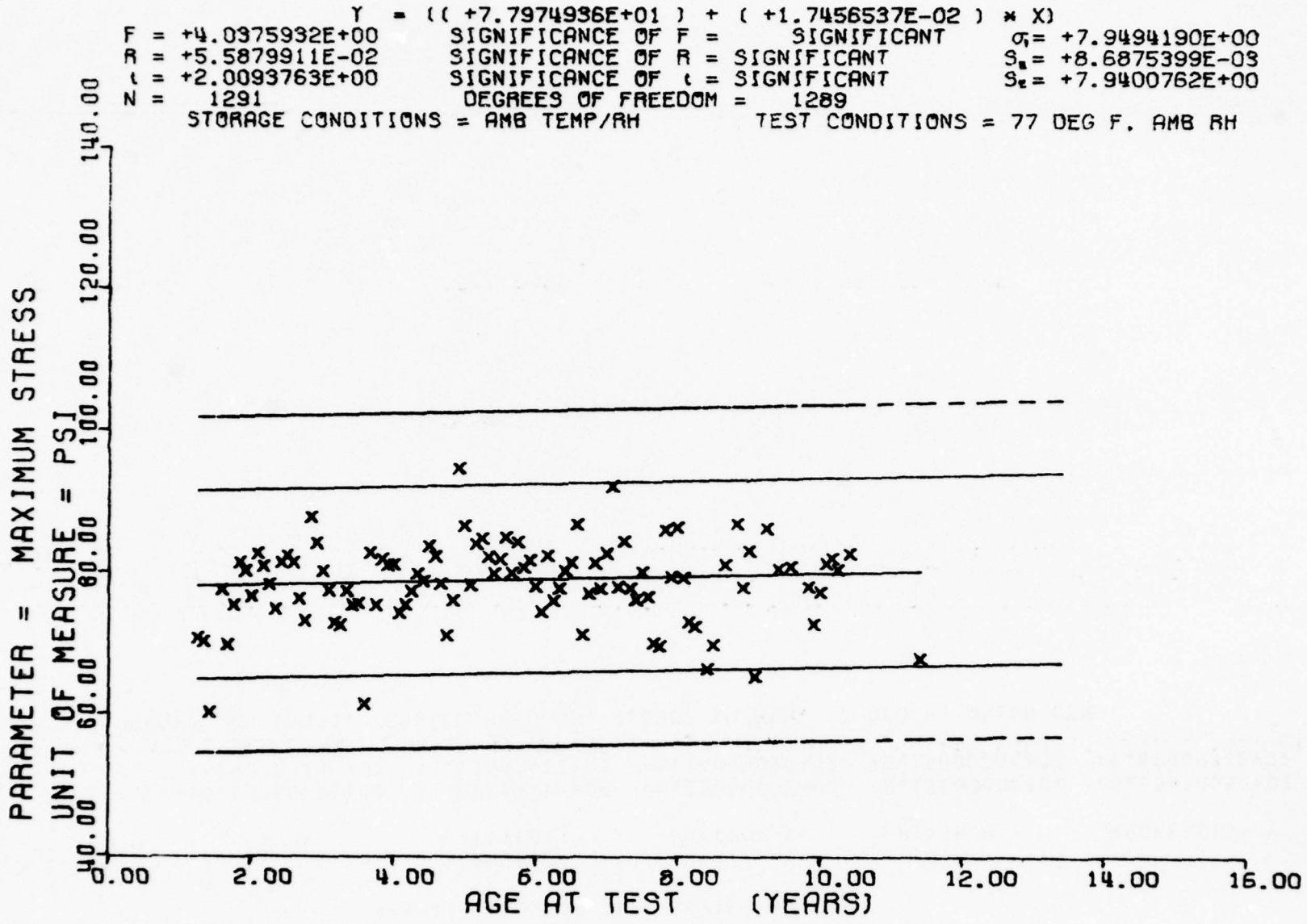

Y = ((+7.7974936E+01) + (+1.7456537E-02) * X)
F = +4.0375932E+00 SIGNIFICANCE OF F = SIGNIFICANT σ = +7.9494190E+00
R = +5.5879911E-02 SIGNIFICANCE OF R = SIGNIFICANT S = +8.6875399E-03
t = +2.0093763E+00 SIGNIFICANCE OF t = SIGNIFICANT S = +7.9400762E+00
N = 1291 DEGREES OF FREEDOM = 1289
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = MAXIMUM STRESS
UNIT OF MEASURE = PSI
140.00
120.00
100.00
80.00
60.00
40.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPELLANT (ANB, G) TENSILE MAX STRESS, .0002 IN/MIN, UNLND CTNS, 77 D

Figure 4-4

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	5	+7.0779922E+01	+2.5955630E+00	+7.2899993E+01	+6.6299987E+01	+7.8236770E+01
16.0	13	+7.0278366E+01	+9.4024225E+00	+8.2729995E+01	+5.4250000E+01	+7.9254226E+01
17.0	2	+6.0299987E+01	+1.1305464E+00	+6.1099990E+01	+5.9500000E+01	+7.8271682E+01
19.0	5	+7.7649948E+01	+2.6327835E+00	+7.9500000E+01	+7.3089996E+01	+7.9306610E+01
20.0	10	+6.9862930E+01	+3.9861091E+00	+7.6549987E+01	+6.2049987E+01	+7.8324066E+01
21.0	23	+7.5465582E+01	+2.8890391E+00	+7.9419998E+01	+7.0769989E+01	+7.8341522E+01
22.0	18	+8.1487670E+01	+4.8574281E+00	+9.0799987E+01	+7.3699996E+01	+7.8358978E+01
23.0	5	+8.0291931E+01	+5.4161672E+00	+8.6029998E+01	+7.4319992E+01	+7.8376434E+01
24.0	11	+7.6660842E+01	+8.4023971E+00	+8.7699996E+01	+6.6000000E+01	+7.8393890E+01
25.0	16	+8.2740539E+01	+4.8647530E+00	+9.1000000E+01	+7.3289993E+01	+7.8411346E+01
26.0	8	+8.0951171E+01	+7.2440368E+00	+9.0389999E+01	+7.0799987E+01	+7.8428802E+01
27.0	10	+7.8393920E+01	+4.7688544E+00	+8.7799987E+01	+7.4599990E+01	+7.8446258E+01
28.0	15	+7.4877944E+01	+9.5369043E+00	+8.3199996E+01	+4.4699996E+01	+7.8463714E+01
29.0	12	+8.1480743E+01	+5.3047124E+00	+8.9000000E+01	+6.7899993E+01	+7.8481170E+01
30.0	5	+8.2445938E+01	+4.0986609E+00	+8.7799987E+01	+7.8489990E+01	+7.8498626E+01
31.0	13	+8.1445266E+01	+4.5739158E+00	+9.0399993E+01	+7.6259994E+01	+7.8516082E+01
32.0	13	+7.6358367E+01	+4.0592962E+00	+8.3809997E+01	+6.9299987E+01	+7.8533538E+01
33.0	19	+7.3242004E+01	+9.4302869E+00	+9.3500000E+01	+5.8799987E+01	+7.8550994E+01
34.0	3	+8.7883300E+01	+1.6930550E+00	+9.0899993E+01	+8.6000000E+01	+7.8568450E+01
35.0	7	+8.4271377E+01	+4.3806900E+00	+9.1500000E+01	+8.0399993E+01	+7.8585906E+01
36.0	28	+8.0279556E+01	+6.0261026E+00	+9.6799987E+01	+7.3899993E+01	+7.8603363E+01
37.0	15	+7.7641229E+01	+7.6167502E+00	+8.9199996E+01	+6.6299987E+01	+7.8620819E+01
38.0	10	+7.2989379E+01	+5.2990577E+00	+8.0299987E+01	+6.4000000E+01	+7.8638275E+01
39.0	2	+7.2633300E+01	+3.8731683E+00	+8.1000000E+01	+6.7000000E+01	+7.8655731E+01
40.0	17	+7.7482284E+01	+5.0965129E+00	+8.5299987E+01	+7.1000000E+01	+7.8673187E+01
41.0	22	+7.5490829E+01	+6.0693368E+00	+8.5799987E+01	+6.6500000E+01	+7.8690643E+01
42.0	17	+7.5684600E+01	+5.9474548E+00	+8.8549987E+01	+6.8000000E+01	+7.8708099E+01
43.0	8	+6.1514923E+01	+1.0279936E+01	+7.9329986E+01	+5.0599990E+01	+7.8725555E+01
44.0	10	+8.2854949E+01	+4.3977591E+00	+8.9389999E+01	+7.5199996E+01	+7.8743011E+01
45.0	5	+7.5429931E+01	+7.5791737E+00	+8.3000000E+01	+6.5759994E+01	+7.8760467E+01
46.0	29	+8.1937835E+01	+6.4560571E+00	+9.3399993E+01	+7.0199996E+01	+7.8777923E+01

AFM 8096 PROPELLANT (ANB. G) TENSILE MAX STRESS, .0002 IN/MIN, UNLND CTNS, 77 D

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
47.0	12	+8.1101577E+01	+6.8396346E+00	+9.3259994E+01	+7.3199996E+01	+7.8795379E+01
48.0	20	+8.1214904E+01	+6.1387259E+00	+9.5419998E+01	+7.3299987E+01	+7.8812835E+01
49.0	11	+7.4290802E+01	+4.0840815E+00	+8.0500000E+01	+6.7599990E+01	+7.8830291E+01
50.0	10	+7.5479919E+01	+6.9178147E+00	+8.5699996E+01	+6.2899993E+01	+7.8847763E+01
51.0	32	+7.7381484E+01	+6.5338071E+00	+8.8699996E+01	+6.5019989E+01	+7.8865219E+01
52.0	36	+7.9950454E+01	+4.6108541E+00	+8.8500000E+01	+6.7299987E+01	+7.8882675E+01
53.0	34	+7.8825195E+01	+6.1123592E+00	+9.4500000E+01	+7.0159988E+01	+7.8900131E+01
54.0	16	+8.3831130E+01	+5.2155290E+00	+9.1799987E+01	+7.7099990E+01	+7.8917587E+01
55.0	18	+8.2356582E+01	+6.8381246E+00	+9.7699996E+01	+7.2299987E+01	+7.8935043E+01
56.0	19	+7.8484634E+01	+2.9567480E+00	+8.3399993E+01	+7.1000000E+01	+7.8952499E+01
57.0	3	+7.1199981E+01	+2.9457895E+00	+7.4599990E+01	+6.9399993E+01	+7.8969955E+01
58.0	11	+7.6168136E+01	+2.8829633E+00	+8.0000000E+01	+7.0909988E+01	+7.8987411E+01
59.0	11	+9.4802642E+01	+7.6777585E+00	+1.0300000E+02	+7.6729995E+01	+7.9004867E+01
60.0	20	+8.6679870E+01	+7.3399614E+00	+9.3299987E+01	+6.0899993E+01	+7.9022323E+01
61.0	31	+7.8257614E+01	+6.3387376E+00	+9.3099990E+01	+6.6489990E+01	+7.9039779E+01
62.0	18	+8.4089920E+01	+8.0936007E+00	+9.3699996E+01	+6.4899993E+01	+7.9057235E+01
63.0	15	+8.4836563E+01	+1.0319330E+01	+9.6199996E+01	+6.5599990E+01	+7.9074691E+01
64.0	29	+8.2233718E+01	+9.6051488E+00	+1.0050000E+02	+6.1500000E+01	+7.9092147E+01
65.0	18	+7.9879379E+01	+7.4933634E+00	+9.0109985E+01	+6.6500000E+01	+7.9109603E+01
66.0	13	+8.1971466E+01	+4.5995584E+00	+8.8750000E+01	+7.5799987E+01	+7.9127059E+01
67.0	18	+8.5072143E+01	+5.5272347E+00	+9.5699996E+01	+7.5500000E+01	+7.9144515E+01
68.0	24	+8.0026977E+01	+4.0183750E+00	+8.6489990E+01	+7.3969985E+01	+7.9161972E+01
69.0	25	+8.4411117E+01	+7.4356479E+00	+1.0319999E+02	+7.0599990E+01	+7.9179428E+01
70.0	20	+8.0778411E+01	+7.2701853E+00	+9.3039993E+01	+6.7699996E+01	+7.9196884E+01
71.0	24	+8.1778259E+01	+1.0649023E+01	+9.8079986E+01	+5.7599990E+01	+7.9214340E+01
72.0	17	+7.8078140E+01	+6.4475406E+00	+8.8679992E+01	+7.0399993E+01	+7.9231796E+01
73.0	16	+7.4555557E+01	+1.0158131E+01	+8.7899993E+01	+6.0799987E+01	+7.9249252E+01
74.0	10	+8.2489883E+01	+1.1049076E+01	+9.9799987E+01	+7.2000000E+01	+7.9266708E+01
75.0	20	+7.6174926E+01	+5.6349387E+00	+8.4500000E+01	+6.7899993E+01	+7.9284164E+01
76.0	9	+7.7924362E+01	+1.0589988E+01	+9.0479995E+01	+6.5899993E+01	+7.9301620E+01
77.0	7	+8.0372802E+01	+8.6595377E+00	+8.9509994E+01	+6.9459991E+01	+7.9319076E+01

AMB 3066 PROPELLANT (AND, G) TENSILE MAX STRESS, .0002 IN/MIN, UNLND CTNS, 77 D

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
78.0	12	+8.1493240E+01	+6.1303927E+00	+9.1449996E+01	+7.4599990E+01	+7.9336532E+01
79.0	5	+8.6841934E+01	+3.3216851E+00	+9.0619995E+01	+8.2599990E+01	+7.9353988E+01
80.0	18	+7.1279357E+01	+5.6671216E+00	+7.9119995E+01	+6.1099990E+01	+7.9371444E+01
81.0	16	+7.7076766E+01	+7.5837079E+00	+8.7099990E+01	+6.5000000E+01	+7.9388900E+01
82.0	3	+8.1426651E+01	+4.0496713E+00	+8.6079986E+01	+7.8699996E+01	+7.9406372E+01
83.0	21	+7.7823242E+01	+6.5912915E+00	+9.2859985E+01	+6.4500000E+01	+7.9423828E+01
84.0	18	+8.2814910E+01	+3.5855796E+00	+9.4879989E+01	+6.7239990E+01	+7.9441284E+01
85.0	6	+9.2274902E+01	+2.1919459E+00	+9.4759994E+01	+8.8389999E+01	+7.9458740E+01
86.0	13	+7.8067626E+01	+1.2152393E+01	+9.4719985E+01	+6.3000000E+01	+7.9476196E+01
87.0	10	+8.4510925E+01	+4.0407910E+00	+8.8309997E+01	+7.6000000E+01	+7.9493652E+01
88.0	7	+7.7847061E+01	+5.0525130E+00	+8.2699996E+01	+7.0109985E+01	+7.9511108E+01
89.0	18	+7.6265457E+01	+6.6592012E+00	+8.7079986E+01	+6.2079986E+01	+7.9528564E+01
90.0	11	+8.0208084E+01	+1.1467175E+01	+9.4000000E+01	+6.5369995E+01	+7.9546020E+01
91.0	7	+7.6691329E+01	+6.6369056E+00	+8.6209991E+01	+7.0219985E+01	+7.9563476E+01
92.0	10	+7.0219894E+01	+4.8150228E+00	+8.0799987E+01	+6.2699996E+01	+7.9580932E+01
93.0	5	+6.9739929E+01	+1.0420518E+00	+7.1099990E+01	+6.8199996E+01	+7.9598388E+01
94.0	9	+8.6147644E+01	+6.3361839E+00	+9.2899993E+01	+7.5969985E+01	+7.9615844E+01
95.0	19	+7.9427246E+01	+7.2660320E+00	+9.3129989E+01	+6.6299987E+01	+7.9633300E+01
96.0	6	+8.6426589E+01	+9.9862154E-01	+8.8129989E+01	+8.5429992E+01	+7.9650756E+01
97.0	6	+7.9348297E+01	+5.9631456E+00	+8.6129989E+01	+7.1250000E+01	+7.9668212E+01
98.0	9	+7.3146606E+01	+2.0215930E+00	+7.6039993E+01	+6.9199996E+01	+7.9685668E+01
99.0	1	+7.2500000E+01	+0.0000000E+87	+7.2500000E+01	+7.2500000E+01	+7.9703125E+01
101.0	6	+6.6492401E+01	+4.8200714E+00	+7.2029998E+01	+5.9539993E+01	+7.9738037E+01
102.0	3	+6.9896652E+01	+2.1884838E+00	+7.2159988E+01	+6.7789993E+01	+7.9755493E+01
104.0	11	+8.1202590E+01	+4.6350995E+00	+8.7309997E+01	+7.2899993E+01	+7.9790405E+01
106.0	2	+8.7000000E+01	+9.8994949E+00	+9.4000000E+01	+8.0000000E+01	+7.9825317E+01
107.0	2	+7.7999984E+01	+8.4689085E-01	+7.8599990E+01	+7.7399993E+01	+7.9842773E+01
108.0	3	+8.3196655E+01	+1.0757096E+00	+8.4389999E+01	+8.2299987E+01	+7.9860229E+01
109.0	9	+6.5445434E+01	+2.3651322E+00	+6.9000000E+01	+6.1989990E+01	+7.9877685E+01
111.0	6	+8.6343261E+01	+4.2851501E+00	+9.0979995E+01	+7.9649993E+01	+7.9912597E+01
113.0	12	+8.0606582E+01	+2.0978625E+00	+8.5569992E+01	+7.4869995E+01	+7.9947525E+01

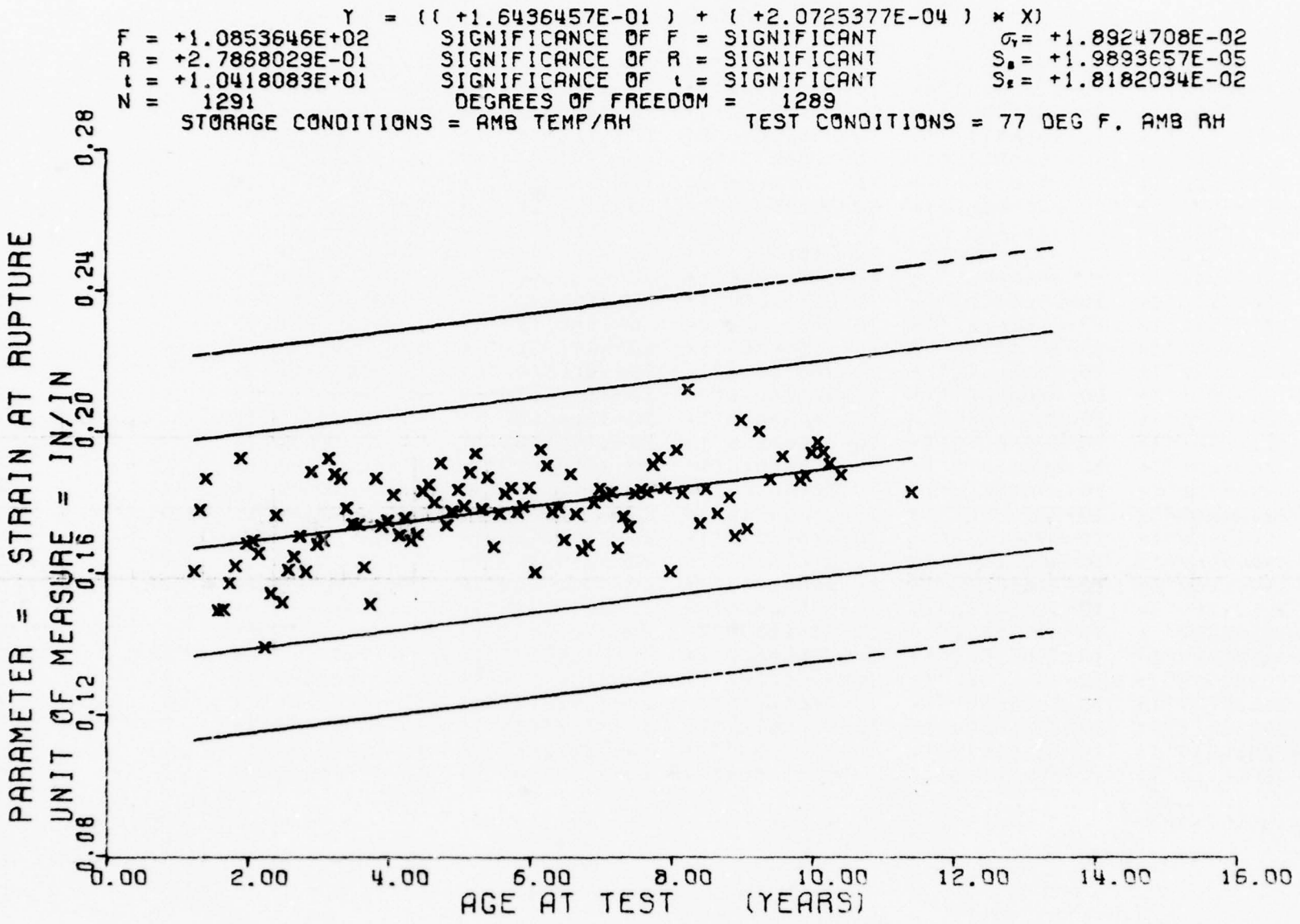
ANB 3066 PROPELLANT (ANB, G) TENSILE MAX STRESS, .0002 IN/MIN, UNLND CTNS, 77 D

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
115.0	3	+8.0953323E+01	+6.8414959E-01	+8.1719985E+01	+8.0399993E+01	+7.9982437E+01
116.0	7	+7.8035644E+01	+4.2299791E+00	+8.4289993E+01	+7.3919998E+01	+8.0034805E+01
119.0	9	+7.2792144E+01	+1.1957399E+00	+7.4459991E+01	+7.1059997E+01	+8.0052261E+01
120.0	2	+7.7324996E+01	+7.8103512E-02	+7.7389999E+01	+7.7259994E+01	+8.0069717E+01
121.0	9	+8.1381042E+01	+6.2162600E+00	+8.9099990E+01	+7.1939987E+01	+8.0087173E+01
122.0	3	+8.2143310E+01	+3.9554880E+00	+8.6129989E+01	+7.8219985E+01	+8.0104629E+01
123.0	3	+8.0553314E+01	+2.6901742E+00	+8.3219985E+01	+7.7839996E+01	+8.0122085E+01
125.0	6	+8.2309936E+01	+2.6774723E+00	+8.6569992E+01	+7.9799987E+01	+8.0156997E+01
137.0	1	+6.8000000E+01	+0.0000000E+59	+6.8000000E+01	+6.8000000E+01	+8.0366470E+01

ANB 3066 PROPELLANT (ANB, G) TENSILE MAX STRESS, .0002 IN/MIN, UNLND CTNS, 77 D



ANB 3066 PROPELLANT (ANB, G) TENSILE STN @ RUP, .0002 IN/MIN, UNLND CTNS, 77 DG

Figure 4-5

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	5	+1.6079992E-01	+6.6693002E-03	+1.6999995E-01	+1.5399998E-01	+1.6747337E-01
16.0	13	+1.7806887E-01	+1.5767338E-02	+2.1049994E-01	+1.5399997E-01	+1.6758062E-01
17.0	2	+1.8699997E-01	+1.4101231E-03	+1.8799996E-01	+1.8599998E-01	+1.6788786E-01
19.0	5	+1.4971995E-01	+4.2320242E-03	+1.5419995E-01	+1.4399999E-01	+1.6830235E-01
20.0	10	+1.4992976E-01	+1.3034907E-02	+1.7839998E-01	+1.3399994E-01	+1.6850960E-01
21.0	23	+1.5738660E-01	+1.9130372E-02	+1.8799996E-01	+1.2799996E-01	+1.6871684E-01
22.0	13	+1.6225522E-01	+2.1141323E-02	+2.0599997E-01	+1.2479996E-01	+1.6892415E-01
23.0	5	+1.9271993E-01	+1.3116868E-02	+2.0849996E-01	+1.7919999E-01	+1.6913139E-01
24.0	11	+1.6874527E-01	+1.6033708E-02	+2.0289999E-01	+1.4599996E-01	+1.6933864E-01
25.0	15	+1.6952472E-01	+1.6316647E-02	+2.0199996E-01	+1.4399999E-01	+1.6954588E-01
26.0	8	+1.6592490E-01	+1.9932725E-02	+1.9809997E-01	+1.4239996E-01	+1.6975313E-01
27.0	10	+1.3934969E-01	+7.8813515E-03	+1.5119999E-01	+1.2399995E-01	+1.6996037E-01
28.0	15	+1.5450638E-01	+1.8255351E-02	+2.0399999E-01	+1.2799996E-01	+1.7016762E-01
29.0	12	+1.7676639E-01	+1.5399011E-02	+1.9799995E-01	+1.5199995E-01	+1.7037492E-01
30.0	5	+1.5199995E-01	+1.8814541E-02	+1.6999995E-01	+1.3199996E-01	+1.7058217E-01
31.0	13	+1.6116124E-01	+1.4255979E-02	+1.9399994E-01	+1.3999998E-01	+1.7078942E-01
32.0	13	+1.6504585E-01	+1.8159483E-02	+1.9599997E-01	+1.4399999E-01	+1.7099666E-01
33.0	19	+1.7084175E-01	+9.9671978E-03	+1.9799995E-01	+1.5399998E-01	+1.7120391E-01
34.0	6	+1.6066658E-01	+5.0058743E-03	+1.6999995E-01	+1.5599995E-01	+1.7141115E-01
35.0	7	+1.8899983E-01	+1.9537049E-02	+2.0799994E-01	+1.5799999E-01	+1.7161840E-01
36.0	28	+1.6842097E-01	+1.5017803E-02	+1.8899995E-01	+1.2799996E-01	+1.7182570E-01
37.0	15	+1.6955298E-01	+1.6280998E-02	+1.9039994E-01	+1.3869994E-01	+1.7203295E-01
38.0	10	+1.9273638E-01	+1.4978088E-02	+2.1799999E-01	+1.6599994E-01	+1.7224019E-01
39.0	9	+1.8833315E-01	+1.6031735E-02	+2.0499998E-01	+1.4999997E-01	+1.7244744E-01
40.0	17	+1.8711733E-01	+3.9323328E-02	+3.0599999E-01	+1.5399998E-01	+1.7265468E-01
41.0	22	+1.7872679E-01	+1.1688693E-02	+1.9799995E-01	+1.4799994E-01	+1.7286193E-01
42.0	17	+1.7421728E-01	+1.4734166E-02	+2.1069997E-01	+1.5199995E-01	+1.7306917E-01
43.0	3	+1.7404985E-01	+1.2330276E-02	+1.9299995E-01	+1.5119999E-01	+1.7327648E-01
44.0	10	+1.5200977E-01	+9.2519980E-03	+1.7089998E-01	+1.4509999E-01	+1.7348372E-01
45.0	5	+1.5151995E-01	+2.8473851E-02	+1.7999994E-01	+1.1999994E-01	+1.7369097E-01
46.0	23	+1.6710237E-01	+2.0746225E-02	+2.3599994E-01	+1.5999996E-01	+1.7389822E-01

AMS 5065 PROPELLANT (ANB. G) TENSILE STR @ RUP, .0002 IN/MIN, UNLND CTNS, 77 DG

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
47.0	12	+1.7349970E-01	+1.7237205E-02	+1.9769996E-01	+1.4599996E-01	+1.7410546E-01
48.0	20	+1.7303959E-01	+2.0194668E-02	+1.9699996E-01	+1.1279994E-01	+1.7431271E-01
49.0	11	+1.8236333E-01	+1.9903317E-02	+2.3099994E-01	+1.6699999E-01	+1.7451995E-01
50.0	10	+1.7089974E-01	+1.2416400E-02	+1.8699997E-01	+1.5099996E-01	+1.7472720E-01
51.0	32	+1.7586201E-01	+1.5330907E-02	+2.1999996E-01	+1.5039998E-01	+1.7493450E-01
52.0	36	+1.6939955E-01	+1.1797611E-02	+1.9599997E-01	+1.4199995E-01	+1.7514175E-01
53.0	34	+1.7104661E-01	+1.7541228E-02	+1.9999998E-01	+1.3269996E-01	+1.7534899E-01
54.0	16	+1.8337464E-01	+2.3856608E-02	+2.1599996E-01	+1.3689994E-01	+1.7555624E-01
55.0	18	+1.8529415E-01	+2.2276501E-02	+2.2199994E-01	+1.5319997E-01	+1.7576348E-01
56.0	19	+1.8022596E-01	+2.0037599E-02	+2.0599997E-01	+1.3719999E-01	+1.7597073E-01
57.0	3	+1.9133329E-01	+8.3266263E-03	+1.9799995E-01	+1.8199998E-01	+1.7617803E-01
58.0	11	+1.7365419E-01	+1.0046851E-02	+1.8599998E-01	+1.5729999E-01	+1.7638528E-01
59.0	11	+1.7763620E-01	+2.0215738E-02	+2.0799994E-01	+1.5799999E-01	+1.7659252E-01
60.0	20	+1.8389958E-01	+1.6396725E-02	+2.1399998E-01	+1.2999999E-01	+1.7679977E-01
61.0	31	+1.7919641E-01	+1.7380676E-02	+2.1999996E-01	+1.4239996E-01	+1.7700701E-01
62.0	18	+1.8874406E-01	+1.7079645E-02	+2.1499997E-01	+1.6199994E-01	+1.7721426E-01
63.0	15	+1.9399958E-01	+2.1198272E-02	+2.3879998E-01	+1.6599994E-01	+1.7742151E-01
64.0	29	+1.7836499E-01	+1.5109030E-02	+2.1099996E-01	+1.5399998E-01	+1.7762881E-01
65.0	18	+1.8730509E-01	+2.2943147E-02	+2.4599999E-01	+1.5399998E-01	+1.7783606E-01
66.0	13	+1.6755366E-01	+1.0333806E-02	+1.8099999E-01	+1.4299994E-01	+1.7804330E-01
67.0	18	+1.7701083E-01	+1.4461920E-02	+2.0399999E-01	+1.5199995E-01	+1.7825055E-01
68.0	24	+1.8256211E-01	+1.8080330E-02	+2.1279996E-01	+1.3799995E-01	+1.7845779E-01
69.0	25	+1.8427950E-01	+1.4072186E-02	+2.0599997E-01	+1.5999996E-01	+1.7866504E-01
70.0	20	+1.7743968E-01	+1.3657367E-02	+2.0099997E-01	+1.6159999E-01	+1.7887228E-01
71.0	24	+1.7903709E-01	+1.8034011E-02	+2.1199995E-01	+1.5679997E-01	+1.7907959E-01
72.0	17	+1.8434089E-01	+1.5256425E-02	+2.0719999E-01	+1.4669996E-01	+1.7928683E-01
73.0	16	+1.6044342E-01	+9.4506101E-03	+1.7399996E-01	+1.3599998E-01	+1.7949408E-01
74.0	10	+1.9509971E-01	+9.9311049E-03	+2.0699995E-01	+1.8199998E-01	+1.7970132E-01
75.0	20	+1.9059950E-01	+1.3258145E-02	+2.1399998E-01	+1.5599995E-01	+1.7990857E-01
76.0	9	+1.7754423E-01	+8.5992095E-03	+1.8099999E-01	+1.5999996E-01	+1.8011581E-01
77.0	7	+1.7078544E-01	+6.7475860E-03	+1.8959999E-01	+1.7009997E-01	+1.8032306E-01

AMB 3065 PROPELLANT (ANB, G) TENSILE STN @ RUP, .0002 IN/MIN, UNLND CTNS, 77 DG

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
78.0	12	+1.6951636E-01	+1.9674989E-02	+1.9999998E-01	+1.3679999E-01	+1.8053036E-01
79.0	5	+1.8319993E-01	+8.4560890E-03	+1.9599997E-01	+1.7679995E-01	+1.8073761E-01
80.0	18	+1.7692744E-01	+9.4187437E-03	+1.9599997E-01	+1.6269999E-01	+1.8094485E-01
81.0	16	+1.6649967E-01	+1.2318387E-02	+1.9199997E-01	+1.4469999E-01	+1.8115210E-01
82.0	3	+1.5796660E-01	+5.9999640E-03	+1.7399996E-01	+1.6199994E-01	+1.8135935E-01
83.0	21	+1.7994236E-01	+9.9481474E-03	+1.9199997E-01	+1.6159999E-01	+1.8156659E-01
84.0	18	+1.8367740E-01	+1.5338281E-02	+2.0799994E-01	+1.4959996E-01	+1.8177384E-01
85.0	6	+1.8176651E-01	+1.4069324E-02	+1.9919997E-01	+1.6129994E-01	+1.8198108E-01
86.0	13	+1.8289196E-01	+1.2950933E-02	+2.0519995E-01	+1.5999996E-01	+1.8218839E-01
87.0	10	+1.6708964E-01	+1.1556016E-02	+1.8209999E-01	+1.4419996E-01	+1.8239563E-01
88.0	7	+1.7598557E-01	+9.6932674E-03	+1.8719995E-01	+1.5799999E-01	+1.8260288E-01
89.0	18	+1.7300522E-01	+1.3820413E-02	+1.9999998E-01	+1.4879995E-01	+1.8281012E-01
90.0	11	+1.8250876E-01	+2.3136175E-02	+2.1299999E-01	+1.4999997E-01	+1.8301737E-01
91.0	7	+1.8369984E-01	+1.5490926E-02	+2.1119999E-01	+1.6559994E-01	+1.8322461E-01
92.0	10	+1.8279981E-01	+8.6541348E-03	+1.9799995E-01	+1.7199999E-01	+1.8343186E-01
93.0	5	+1.9059991E-01	+4.5598979E-03	+1.9499999E-01	+1.8399995E-01	+1.8363916E-01
94.0	9	+1.9256639E-01	+9.2701640E-03	+2.1359997E-01	+1.8239998E-01	+1.8384641E-01
95.0	19	+1.8413650E-01	+1.9625528E-02	+2.1519994E-01	+1.4999997E-01	+1.8405365E-01
96.0	6	+1.6059994E-01	+1.8627281E-02	+1.8479996E-01	+1.3439995E-01	+1.8426090E-01
97.0	6	+1.9493323E-01	+1.3899310E-02	+2.1399998E-01	+1.7599994E-01	+1.8446815E-01
98.0	9	+1.8269968E-01	+2.1618974E-02	+2.1119999E-01	+1.6159999E-01	+1.8467539E-01
99.0	1	+2.1199996E-01	+0.0000000E+87	+2.1199995E-01	+2.1199995E-01	+1.8488264E-01
101.0	4	+1.7406226E-01	+1.4493252E-02	+1.9359999E-01	+1.5439999E-01	+1.8529719E-01
102.0	3	+1.8493326E-01	+8.7957784E-03	+1.9359999E-01	+1.7639994E-01	+1.8550443E-01
104.0	11	+1.7688149E-01	+5.5665703E-03	+1.8939995E-01	+1.7109996E-01	+1.8591892E-01
106.0	2	+1.8149995E-01	+4.4547242E-02	+2.1299999E-01	+1.4999997E-01	+1.8633341E-01
107.0	2	+1.7059993E-01	+4.8100599E-03	+1.7399996E-01	+1.6719996E-01	+1.8654072E-01
108.0	3	+2.0333325E-01	+1.5216366E-03	+2.0499998E-01	+2.0199996E-01	+1.8674796E-01
109.0	9	+1.7246545E-01	+8.3089330E-03	+1.8199998E-01	+1.5999996E-01	+1.8695521E-01
111.0	6	+2.3024979E-01	+1.3528279E-02	+2.2119998E-01	+1.9209999E-01	+1.8736970E-01
113.0	12	+1.8649971E-01	+1.4674783E-02	+2.1399998E-01	+1.6319996E-01	+1.8778419E-01

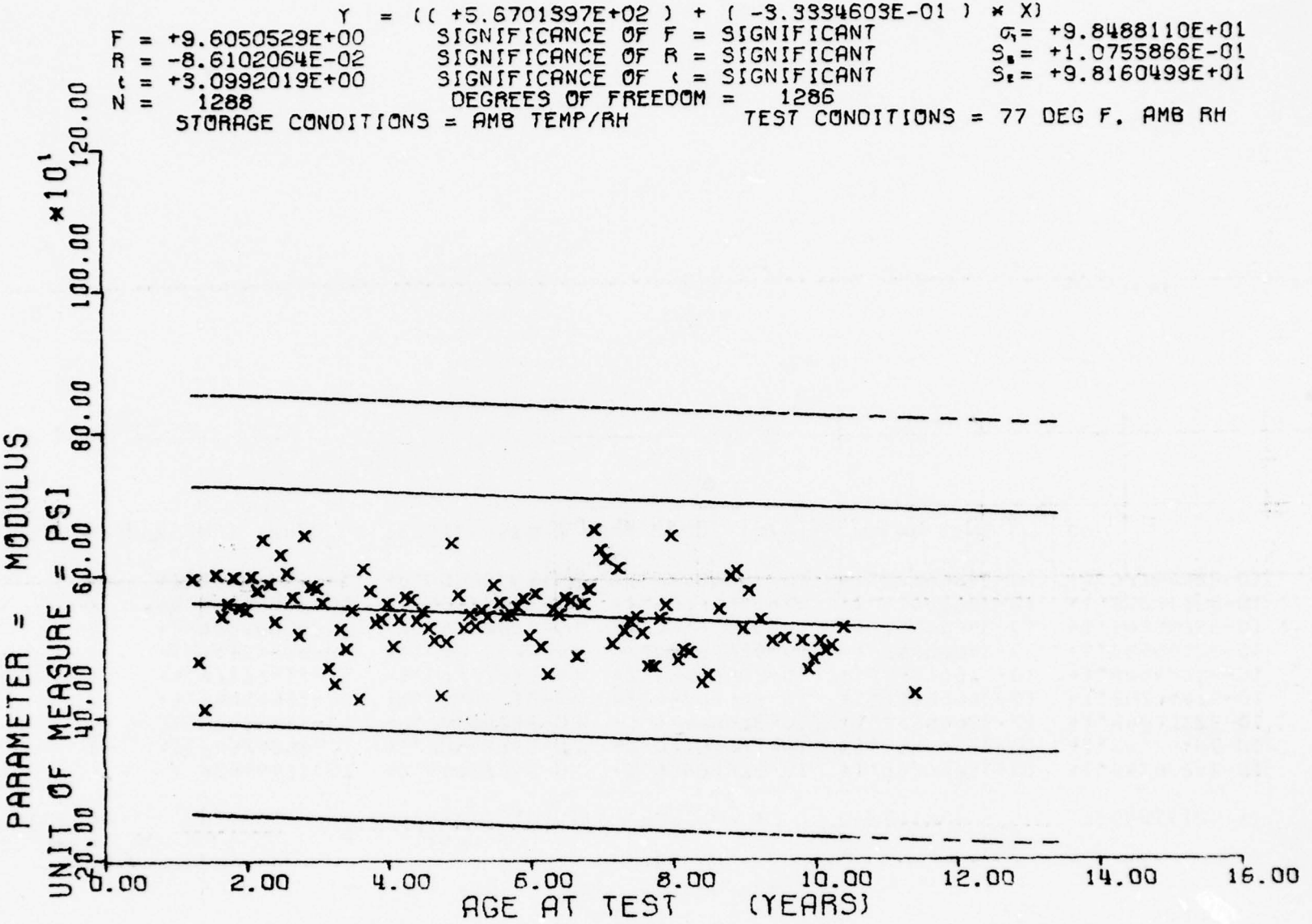
AMR 3066 PROPELLANT (AJB, GI TENSILE STN @ RUP, .0002 IN/MIN, UNLAD CTNS, 77 DG

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
116.0	3	+1.9296663E-01	+2.6492708E-03	+1.9559997E-01	+1.9029998E-01	+1.8819674E-01
118.0	7	+1.8632829E-01	+1.7044378E-02	+2.0689997E-01	+1.6999995E-01	+1.8882048E-01
119.0	9	+1.8741083E-01	+9.7280928E-03	+1.9849997E-01	+1.6799998E-01	+1.8902772E-01
120.0	2	+1.9394999E-01	+4.4369543E-04	+1.9429999E-01	+1.9359999E-01	+1.8923497E-01
121.0	9	+1.9717741E-01	+8.6772273E-03	+2.1099996E-01	+1.8699997E-01	+1.8944227E-01
122.0	3	+1.9433325E-01	+1.2662043E-02	+2.0399999E-01	+1.7999994E-01	+1.8964952E-01
123.0	3	+1.9099992E-01	+9.8479904E-03	+1.9899994E-01	+1.7999994E-01	+1.8985676E-01
125.0	6	+1.8783330E-01	+7.0807657E-03	+1.9999998E-01	+1.8099999E-01	+1.9027125E-01
137.0	1	+1.8299996E-01	+0.0000000E+59	+1.8299996E-01	+1.8299996E-01	+1.9275832E-01

ANB 3066 PROPELLANT (ANB, G) TENSILE STN @ RUP, .0002 IN/MIN, UNLND CTNS, 77 DG



ANB 3066 PROPELLANT (ANB, G) TENSILE MODULUS, .0002 IN/MIN, UNLND CTNS, 77 DEG

Figure 4-6

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	5	+5.9639990E+02	+5.3021693E+01	+6.2700000E+02	+5.0200000E+02	+5.6201367E+02
16.0	13	+4.8046142E+02	+6.8842350E+01	+5.9000000E+02	+3.4400000E+02	+5.6168041E+02
17.0	2	+4.1350000E+02	+6.3639610E+00	+4.1800000E+02	+4.0900000E+02	+5.6134692E+02
19.0	5	+6.0279980E+02	+1.6724233E+01	+6.2600000E+02	+5.8600000E+02	+5.6068017E+02
20.0	10	+5.4419995E+02	+4.9694175E+01	+5.9400000E+02	+4.6900000E+02	+5.6034692E+02
21.0	23	+5.6104345E+02	+6.3217861E+01	+6.5700000E+02	+4.4000000E+02	+5.6001367E+02
22.0	18	+5.9844433E+02	+9.1428675E+01	+7.6800000E+02	+4.1200000E+02	+5.5968017E+02
23.0	5	+5.5619995E+02	+5.3001886E+01	+6.1600000E+02	+5.0200000E+02	+5.5934692E+02
24.0	11	+5.5236352E+02	+6.3203279E+01	+6.6000000E+02	+4.6600000E+02	+5.5901342E+02
25.0	16	+6.0012500E+02	+4.8963762E+01	+7.0400000E+02	+5.2100000E+02	+5.5868017E+02
26.0	8	+5.8012500E+02	+4.9026049E+01	+6.5100000E+02	+5.3200000E+02	+5.5834692E+02
27.0	10	+6.5189990E+02	+6.0881396E+01	+7.4700000E+02	+5.4500000E+02	+5.5801342E+02
28.0	15	+5.8919995E+02	+6.7861413E+01	+6.6900000E+02	+3.8700000E+02	+5.5768017E+02
29.0	12	+5.3591650E+02	+7.6623588E+01	+6.2700000E+02	+4.0000000E+02	+5.5734692E+02
30.0	5	+6.3039990E+02	+9.1308816E+01	+7.3600000E+02	+5.1800000E+02	+5.5701342E+02
31.0	13	+6.0500000E+02	+6.8944422E+01	+7.3100000E+02	+5.1600000E+02	+5.5668017E+02
32.0	13	+5.7038452E+02	+3.7344206E+01	+6.3900000E+02	+5.2900000E+02	+5.5634667E+02
33.0	19	+5.1763134E+02	+7.6146212E+01	+6.8600000E+02	+4.0400000E+02	+5.5601342E+02
34.0	6	+6.5766650E+02	+2.3491842E+01	+6.9300000E+02	+6.2600000E+02	+5.5568017E+02
35.0	7	+5.8571411E+02	+7.2662953E+01	+7.0200000E+02	+5.3100000E+02	+5.5534667E+02
36.0	28	+5.8278564E+02	+6.4552796E+01	+6.9300000E+02	+4.8400000E+02	+5.5501342E+02
37.0	15	+5.6226660E+02	+9.5920701E+01	+7.5700000E+02	+4.2100000E+02	+5.5467993E+02
38.0	14	+4.7147363E+02	+3.6651163E+01	+5.6500000E+02	+4.0000000E+02	+5.5434667E+02
39.0	10	+4.4379980E+02	+6.6432935E+01	+6.1400000E+02	+3.8700000E+02	+5.5401342E+02
40.0	17	+5.2576464E+02	+4.9568802E+01	+5.9900000E+02	+4.6000000E+02	+5.5367993E+02
41.0	22	+4.9831811E+02	+4.6054198E+01	+5.6500000E+02	+4.0500000E+02	+5.5334667E+02
42.0	17	+5.5300000E+02	+4.6689131E+01	+6.4600000E+02	+4.6400000E+02	+5.5301342E+02
43.0	8	+4.2675000E+02	+1.0426991E+02	+6.0100000E+02	+3.3600000E+02	+5.5267993E+02
44.0	10	+6.0979980E+02	+5.7466511E+01	+6.8600000E+02	+5.2900000E+02	+5.5234667E+02
45.0	5	+5.7959985E+02	+5.0510394E+01	+6.3200000E+02	+5.0700000E+02	+5.5201318E+02
46.0	29	+5.3434472E+02	+5.4953406E+01	+6.4300000E+02	+4.4900000E+02	+5.5167993E+02

AN8 3066 PROPELLANT (AN8, G) TENSILE MODULUS, .0002 IN/MIN, UNLND CTNS, 77 DEG

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
47.0	12	+5.3925000E+02	+3.9055031E+01	+5.7600000E+02	+4.7700000E+02	+5.5134667E+02
48.0	20	+5.5109985E+02	+1.1707617E+02	+9.7400000E+02	+4.7900000E+02	+5.5101318E+02
49.0	11	+5.0127270E+02	+4.7339393E+01	+5.5900000E+02	+4.1700000E+02	+5.5067993E+02
50.0	10	+5.3850000E+02	+8.0184855E+01	+6.8200000E+02	+4.4500000E+02	+5.5034643E+02
51.0	32	+5.7106250E+02	+1.9650903E+02	+1.3460000E+03	+4.3100000E+02	+5.5001318E+02
52.0	36	+5.6719433E+02	+5.9884564E+01	+6.8000000E+02	+4.5300000E+02	+5.4967993E+02
53.0	34	+5.3702929E+02	+5.6539868E+01	+6.6000000E+02	+4.1500000E+02	+5.4934643E+02
54.0	16	+5.5012500E+02	+6.5029096E+01	+6.7800000E+02	+4.5300000E+02	+5.4901318E+02
55.0	18	+5.2644433E+02	+7.0959990E+01	+6.4700000E+02	+4.1300000E+02	+5.4867993E+02
56.0	19	+5.0968408E+02	+7.2914754E+01	+6.9300000E+02	+4.1600000E+02	+5.4834643E+02
57.0	3	+4.3200000E+02	+1.6999999E+01	+4.5300000E+02	+4.1600000E+02	+5.4801318E+02
58.0	12	+5.0766650E+02	+3.6725847E+01	+5.5500000E+02	+4.5300000E+02	+5.4767968E+02
59.0	11	+6.4600000E+02	+9.2907480E+01	+7.6000000E+02	+5.3100000E+02	+5.4734643E+02
60.0	20	+5.7264990E+02	+4.4530622E+01	+6.4000000E+02	+4.7000000E+02	+5.4701318E+02
61.0	31	+5.2609667E+02	+7.5167526E+01	+6.7800000E+02	+3.8500000E+02	+5.4667968E+02
62.0	18	+5.4572216E+02	+7.1425654E+01	+7.0400000E+02	+4.0500000E+02	+5.4634643E+02
63.0	15	+5.2846655E+02	+5.7949321E+01	+6.3500000E+02	+4.4000000E+02	+5.4601293E+02
64.0	29	+5.5131030E+02	+8.9028929E+01	+7.8800000E+02	+3.6700000E+02	+5.4567968E+02
65.0	18	+5.4172216E+02	+8.0070414E+01	+6.7500000E+02	+4.1800000E+02	+5.4534643E+02
66.0	13	+5.8638452E+02	+6.5294893E+01	+7.1100000E+02	+4.9800000E+02	+5.4501293E+02
67.0	18	+5.6183325E+02	+8.6590483E+01	+7.4500000E+02	+4.4800000E+02	+5.4467968E+02
68.0	24	+5.4345825E+02	+7.5782858E+01	+7.1700000E+02	+4.1000000E+02	+5.4434643E+02
69.0	25	+5.4435986E+02	+5.1378400E+01	+6.7100000E+02	+4.5300000E+02	+5.4401293E+02
70.0	20	+5.5550000E+02	+7.3531590E+01	+7.2200000E+02	+4.5800000E+02	+5.4367968E+02
71.0	24	+5.6733325E+02	+9.6674562E+01	+7.9500000E+02	+4.3300000E+02	+5.4334619E+02
72.0	17	+5.1570581E+02	+4.5452949E+01	+5.8300000E+02	+4.1600000E+02	+5.4301293E+02
73.0	14	+5.7378564E+02	+4.1873763E+01	+6.4900000E+02	+4.9400000E+02	+5.4267968E+02
74.0	10	+4.9979980E+02	+1.1647298E+02	+6.7900000E+02	+3.7500000E+02	+5.4234619E+02
75.0	20	+4.6079980E+02	+5.7091431E+01	+5.8700000E+02	+3.7300000E+02	+5.4201293E+02
76.0	9	+5.5255541E+02	+8.9266610E+01	+6.9200000E+02	+4.5800000E+02	+5.4167944E+02
77.0	7	+5.4400000E+02	+7.2631489E+01	+6.1900000E+02	+4.5600000E+02	+5.4134619E+02

ANB 3066 PROPELLANT (ANB. 6) TENSILE MODULUS, .0002 IN/MIN, UNLND CTNS, 77 DEG

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
78.0	11	+5.3809082E+02	+8.4657491E+01	+6.9700000E+02	+4.3500000E+02	+5.4101293E+02
79.0	5	+5.6319995E+02	+5.2121972E+01	+6.4900000E+02	+5.1300000E+02	+5.4067944E+02
80.0	18	+4.8555541E+02	+6.2924064E+01	+5.7800000E+02	+3.8200000E+02	+5.4034619E+02
81.0	15	+5.5900000E+02	+7.9537831E+01	+6.7900000E+02	+4.3200000E+02	+5.4001293E+02
82.0	3	+5.7933325E+02	+4.7056703E+01	+6.1500000E+02	+5.2600000E+02	+5.3967944E+02
83.0	21	+6.6295214E+02	+3.0146450E+02	+1.4150000E+03	+4.1600000E+02	+5.3934619E+02
84.0	13	+5.3605541E+02	+2.7230291E+02	+1.4100000E+03	+4.5900000E+02	+5.3901269E+02
85.0	5	+6.2250000E+02	+1.3996428E+01	+6.3500000E+02	+5.9600000E+02	+5.3867944E+02
86.0	13	+5.0330761E+02	+8.2933090E+01	+5.9500000E+02	+3.7800000E+02	+5.3834619E+02
87.0	10	+6.0889990E+02	+3.8968505E+01	+6.9500000E+02	+5.6000000E+02	+5.3801269E+02
88.0	7	+5.2100000E+02	+1.1052299E+02	+6.6800000E+02	+3.0200000E+02	+5.3767944E+02
89.0	17	+5.3476464E+02	+7.2742292E+01	+6.7800000E+02	+4.6000000E+02	+5.3734594E+02
90.0	11	+5.4127270E+02	+8.4657062E+01	+6.6200000E+02	+4.3500000E+02	+5.3701269E+02
91.0	7	+5.1857128E+02	+4.6878764E+01	+6.0600000E+02	+4.7300000E+02	+5.3667944E+02
92.0	10	+4.7159985E+02	+4.5115161E+01	+5.6700000E+02	+4.1300000E+02	+5.3634594E+02
93.0	5	+4.7059985E+02	+4.7045722E+01	+5.4700000E+02	+4.2000000E+02	+5.3601269E+02
94.0	9	+5.3822216E+02	+5.6173342E+01	+6.5900000E+02	+4.6700000E+02	+5.3567944E+02
95.0	19	+5.5626293E+02	+9.0834918E+01	+6.9300000E+02	+4.1700000E+02	+5.3534594E+02
96.0	6	+6.5400000E+02	+7.8714674E+01	+7.7100000E+02	+5.4800000E+02	+5.3501269E+02
97.0	6	+4.8000000E+02	+3.9278492E+01	+5.4200000E+02	+4.3900000E+02	+5.3467919E+02
98.0	9	+4.9488867E+02	+3.1150619E+01	+5.5200000E+02	+4.6200000E+02	+5.3434594E+02
99.0	1	+4.9100000E+02	+0.0000000E+87	+4.9100000E+02	+4.9100000E+02	+5.3401269E+02
101.0	7	+4.4357126E+02	+2.6881574E+01	+4.7900000E+02	+3.9600000E+02	+5.3334594E+02
102.0	3	+4.5833325E+02	+1.6165807E+01	+4.7300000E+02	+4.4100000E+02	+5.3301245E+02
104.0	11	+5.5136352E+02	+4.5893948E+01	+6.5100000E+02	+4.8300000E+02	+5.3234594E+02
106.0	2	+5.9750000E+02	+2.4748737E+01	+6.1500000E+02	+5.8000000E+02	+5.3167919E+02
107.0	2	+5.0550000E+02	+6.5760930E+01	+6.5200000E+02	+5.5900000E+02	+5.3134594E+02
108.0	3	+5.2366650E+02	+1.7616280E+01	+5.3800000E+02	+5.0400000E+02	+5.3101245E+02
109.0	9	+5.7633325E+02	+2.5476852E+02	+1.0540000E+03	+4.1700000E+02	+5.3067919E+02
111.0	6	+5.3683325E+02	+3.6279011E+01	+5.8400000E+02	+5.0000000E+02	+5.3001245E+02
113.0	12	+5.0625000E+02	+2.8616384E+01	+5.6400000E+02	+4.5300000E+02	+5.2934570E+02

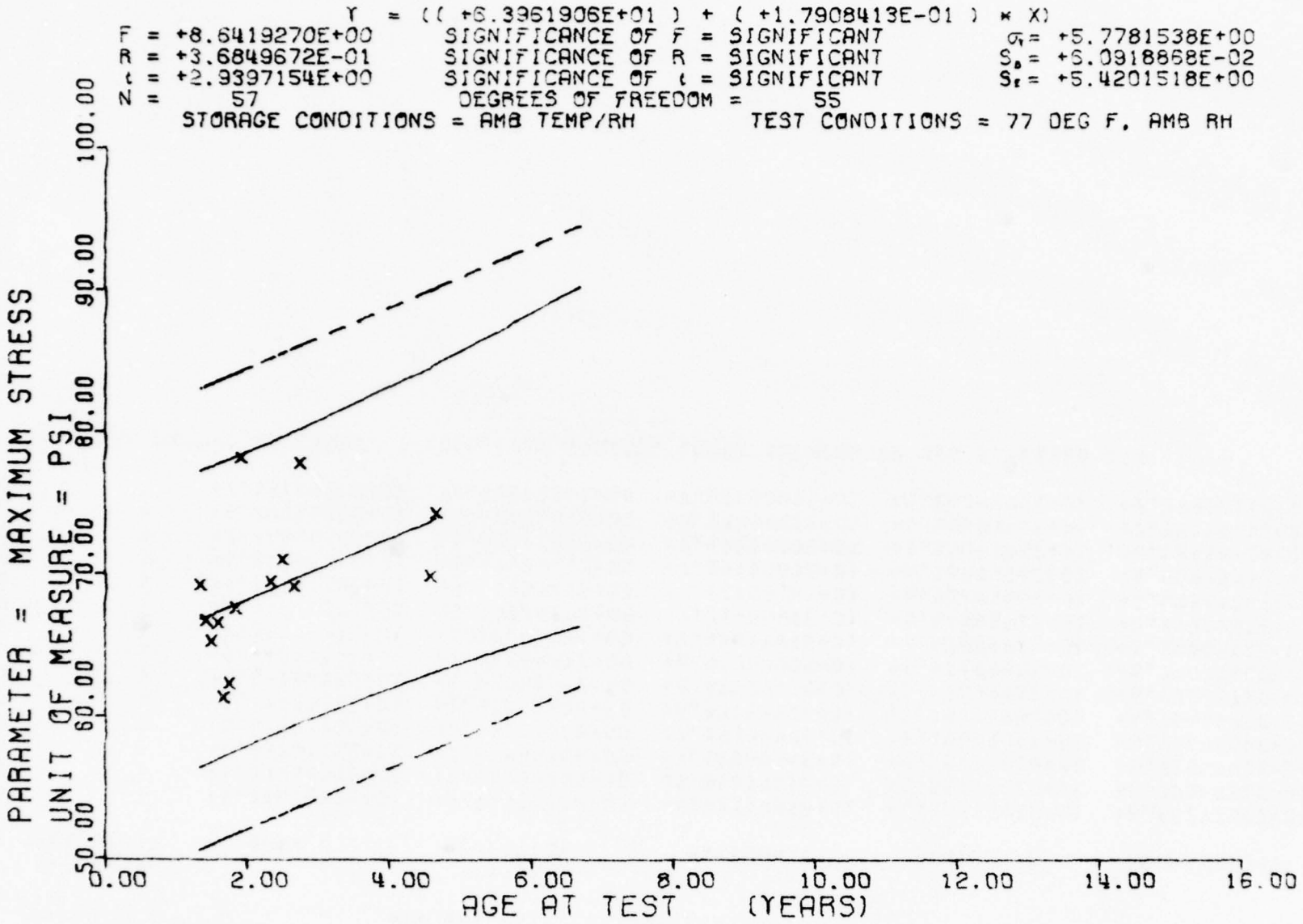
AN3 3066 PROPELLANT (AIR, G) TENSILE MODULUS, .0002 IN/MIN, UNLND CTNS, 77 DEG

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
115.0	3	+5.1033325E+02	+1.3051121E+01	+5.2400000E+02	+4.9800000E+02	+5.2867895E+02
116.0	7	+5.0714282E+02	+5.9181721E+01	+5.8700000E+02	+4.4200000E+02	+5.2767895E+02
119.0	9	+4.6666650E+02	+2.2901964E+01	+5.1000000E+02	+4.3800000E+02	+5.2734570E+02
120.0	2	+4.8100000E+02	+0.0000000E+39	+4.8100000E+02	+4.8100000E+02	+5.2701220E+02
121.0	9	+5.0588867E+02	+6.1115555E+01	+6.1900000E+02	+4.3000000E+02	+5.2667895E+02
122.0	3	+4.9300000E+02	+6.7756918E+01	+5.6700000E+02	+4.3400000E+02	+5.2634570E+02
123.0	3	+4.9933325E+02	+3.8850139E+01	+5.4200000E+02	+4.6600000E+02	+5.2601220E+02
125.0	6	+5.2500000E+02	+2.6359059E+01	+5.6800000E+02	+4.8600000E+02	+5.2534570E+02
137.0	1	+4.3200000E+02	+0.0000000E+59	+4.3200000E+02	+4.3200000E+02	+5.2134545E+02

ANB 3066 PROPELLANT (ANB, G) TENSILE MODULUS, .0002 IN/MIN, UNLND CTNS, 77 DEG



ANB 3066 PROPELLANT (ANB G) TENSILE MAX STRESS, .0002 IN/MIN, 77 DEG F, LINED CTN

Figure 4-7

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
16.0	2	+6.9269989E+01	+8.3453710E-01	+6.9859985E+01	+6.8679992E+01	+6.6827239E+01
17.0	3	+6.6776657E+01	+1.4818924E+00	+6.8109985E+01	+6.5179992E+01	+6.7006332E+01
18.0	8	+6.5326171E+01	+7.6734815E+00	+7.6259994E+01	+5.2579986E+01	+6.7185409E+01
19.0	7	+6.5592773E+01	+2.8658732E+00	+7.0529998E+01	+6.1909988E+01	+6.7364501E+01
20.0	3	+6.1343322E+01	+1.9306869E+00	+6.3379989E+01	+5.9539993E+01	+6.7543579E+01
21.0	3	+6.2356658E+01	+6.6226355E+00	+6.6259994E+01	+5.4709991E+01	+6.7722671E+01
22.0	3	+6.7629989E+01	+1.9618921E+00	+6.9399993E+01	+6.5519989E+01	+6.7901748E+01
23.0	3	+7.8233322E+01	+1.4814742E+00	+7.9669993E+01	+7.6709991E+01	+6.8080841E+01
28.0	6	+6.9511627E+01	+3.0335580E+00	+7.3119995E+01	+6.6459991E+01	+6.8976257E+01
30.0	5	+7.1044952E+01	+5.1315521E+00	+7.6279998E+01	+6.5329986E+01	+6.9334425E+01
32.0	3	+6.9156661E+01	+2.4797360E+00	+7.2019989E+01	+6.7699996E+01	+6.9692595E+01
33.0	3	+7.7836654E+01	+1.6201722E+00	+7.9019989E+01	+7.5989990E+01	+6.9871673E+01
35.0	4	+6.9907470E+01	+1.6810187E+00	+7.2299987E+01	+6.8459991E+01	+7.0311523E+01
56.0	3	+7.4319992E+01	+2.4039584E+00	+7.6259000E+01	+7.1619995E+01	+7.3990615E+01

ANB 3066 PROPELLANT(ANB), TENSILE MAX STRESS, .0002 IN/MIN, 77 DEG F, LINED CTN

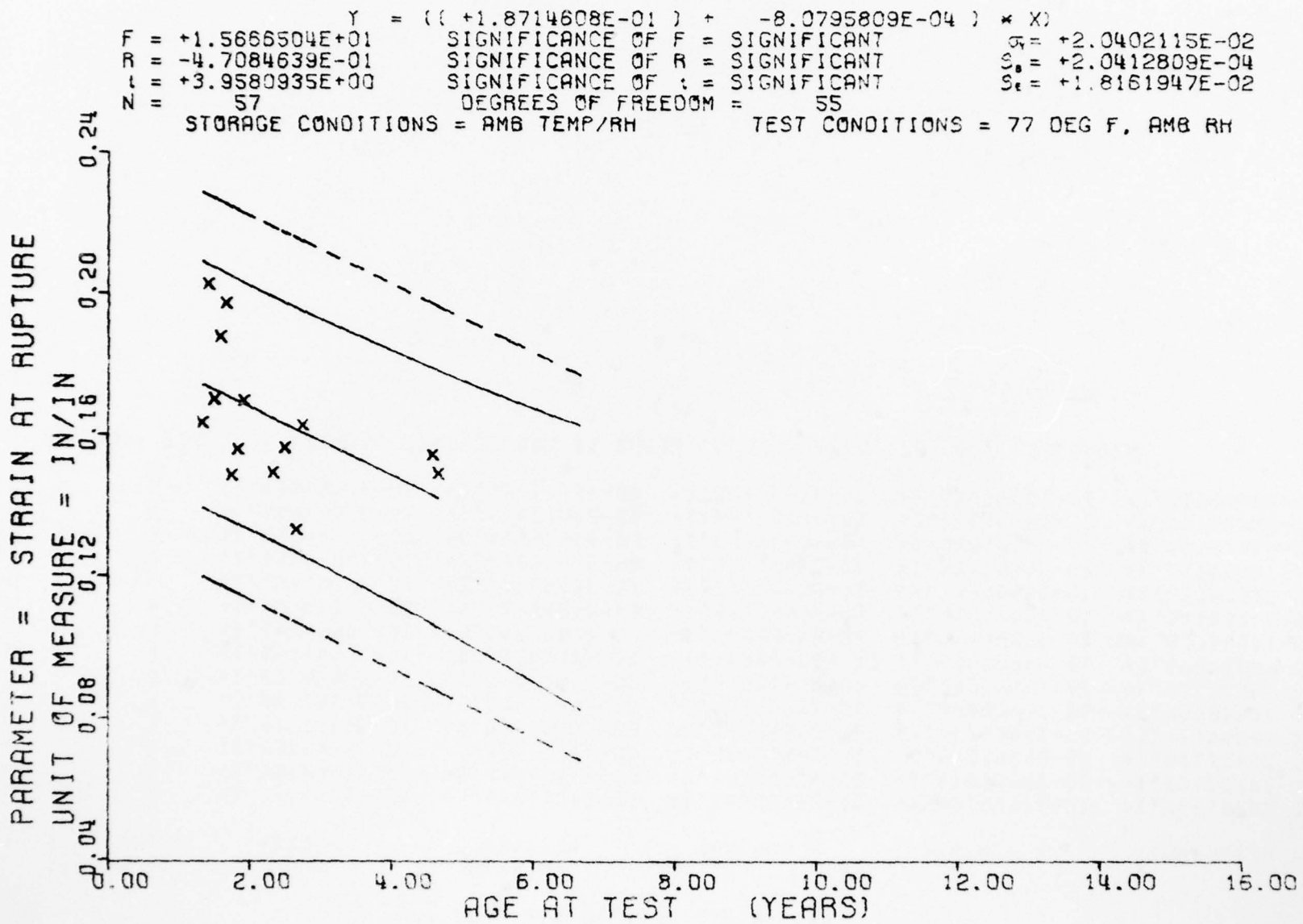

Y = ((+1.8714608E-01) + -8.0795809E-04) * X)
F = +1.5666504E+01 SIGNIFICANCE OF F = SIGNIFICANT σ = +2.0402115E-02
R = -4.7084639E-01 SIGNIFICANCE OF R = SIGNIFICANT S_a = +2.0412809E-04
t = +3.9580935E+00 SIGNIFICANCE OF t = SIGNIFICANT S_t = +1.8161947E-02
N = 57 DEGREES OF FREEDOM = 55
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = STRAIN AT RUPTURE
UNIT OF MEASURE = IN/IN
0.24
0.20
0.16
0.12
0.08
0.04
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
15.00
AGE AT TEST (YEARS)
ANB 3066 PROPELLANT (ANB G) TENSILE STN AT RUPT, .0002 IN/MIN, 77 DEG, LINED CTN

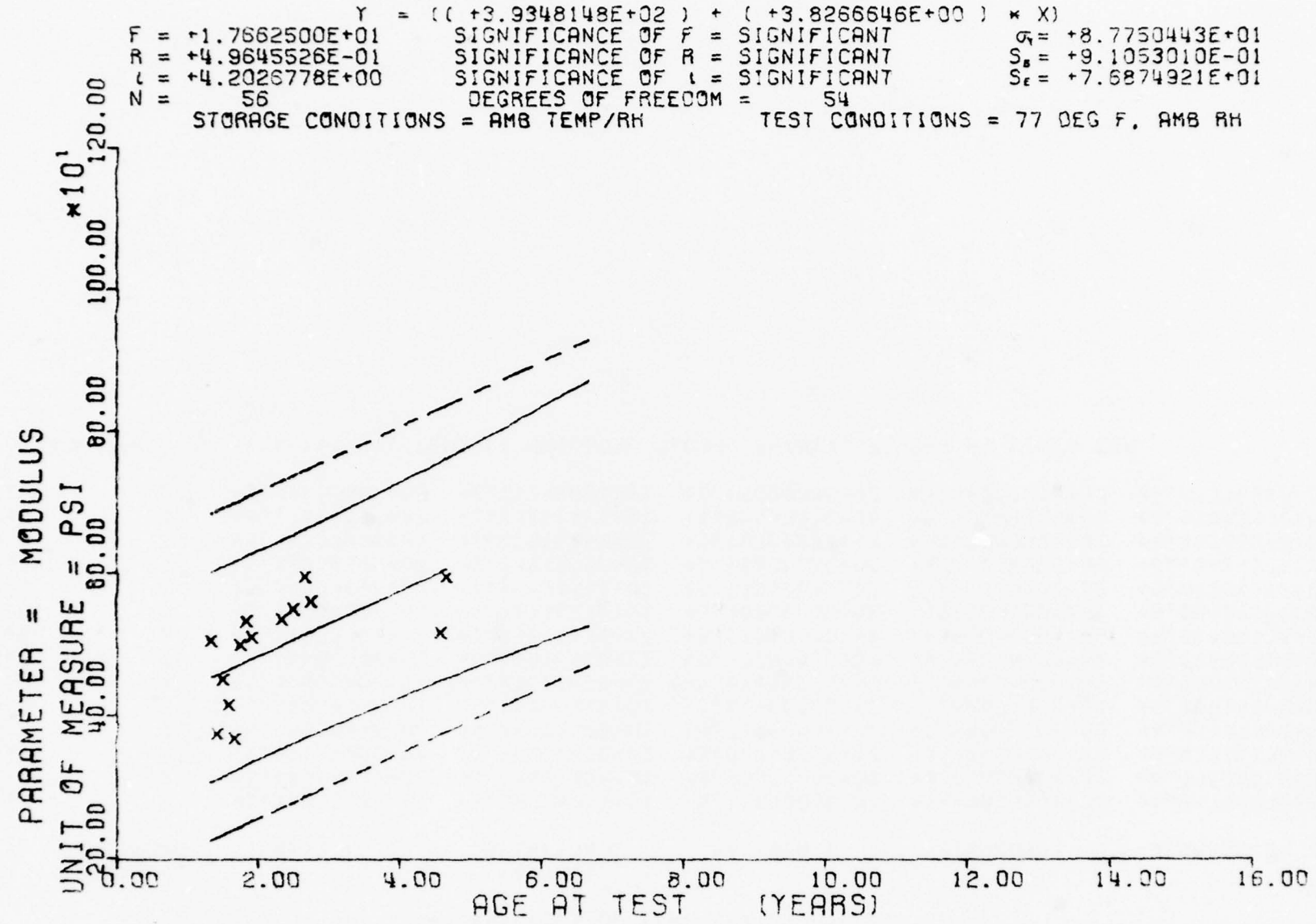
Figure 4-8

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
16.0	2	+1.5354995E-01	+4.4574327E-03	+1.6669994E-01	+1.5039997E-01	+1.7421871E-01
17.0	3	+2.0279997E-01	+5.8556269E-03	+2.0879995E-01	+1.9709998E-01	+1.7347077E-01
18.0	8	+1.7022478E-01	+9.9513233E-03	+1.8959999E-01	+1.5839999E-01	+1.7260283E-01
19.0	7	+1.8775689E-01	+9.7106640E-03	+2.0339995E-01	+1.7729997E-01	+1.7179483E-01
20.0	3	+1.9733327E-01	+8.0799139E-03	+2.0599997E-01	+1.8999999E-01	+1.7098689E-01
21.0	3	+1.4866652E-01	+1.2220201E-02	+1.6199994E-01	+1.3799995E-01	+1.7017894E-01
22.0	3	+1.5599995E-01	+1.3356537E-02	+1.7199999E-01	+1.4799994E-01	+1.6937100E-01
23.0	3	+1.6979992E-01	+3.1622252E-03	+1.7279994E-01	+1.6649997E-01	+1.6856300E-01
28.0	6	+1.4939993E-01	+6.4276420E-03	+1.5839999E-01	+1.4159995E-01	+1.6452324E-01
30.0	6	+1.5654993E-01	+2.1011330E-02	+1.7909997E-01	+1.3439995E-01	+1.6290730E-01
32.0	3	+1.3319993E-01	+2.4020249E-03	+1.3559997E-01	+1.3079994E-01	+1.6129142E-01
33.0	3	+1.6289997E-01	+1.7959534E-03	+1.6469997E-01	+1.6109997E-01	+1.6048341E-01
55.0	4	+1.5437495E-01	+7.4532704E-03	+1.6199994E-01	+1.4499998E-01	+1.4270835E-01
56.0	3	+1.4909994E-01	+1.3692575E-03	+1.5029995E-01	+1.4759999E-01	+1.4190042E-01

ANB 3066 PROPELLANT(ANB), TENSILE STN AT RUPT, .0002 IN/MIN, 77 DEG, LINED CTN



ANB 3066 PROPELLANT (ANB G), TENSILE MODULUS, 0.0002 IN/MIN, 77 DEG F, LINED CTN

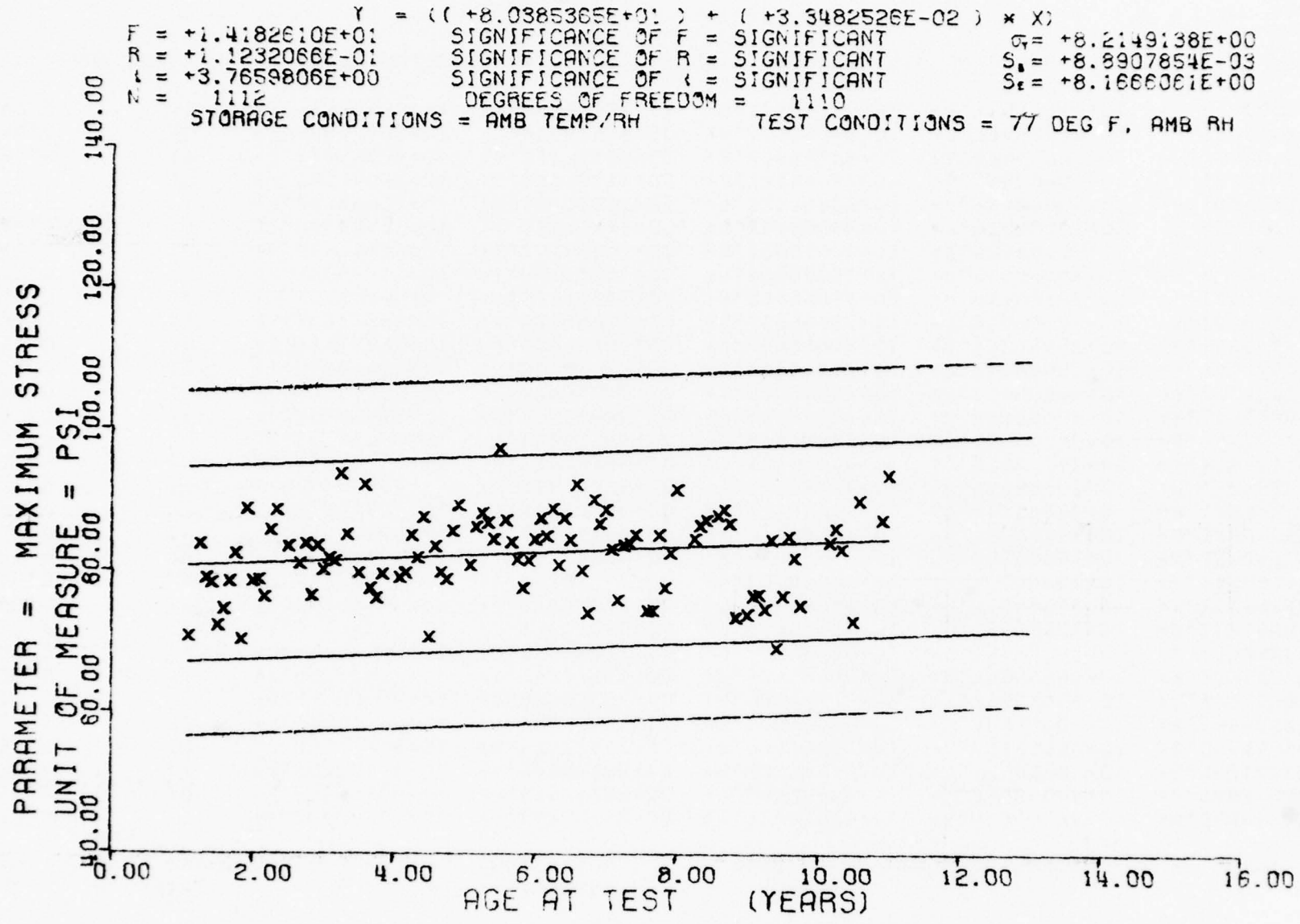
Figure 4-9

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
16.0	2	+5.0650000E+02	+1.0606601E+01	+5.1400000E+02	+4.9900000E+02	+4.5470800E+02
17.0	3	+3.7566650E+02	+1.6862185E+01	+3.9500000E+02	+3.6400000E+02	+4.5853466E+02
18.0	8	+4.5212500E+02	+7.5611147E+01	+5.5600000E+02	+3.3100000E+02	+4.6236132E+02
19.0	7	+4.1628564E+02	+4.4409887E+01	+4.7200000E+02	+3.5800000E+02	+4.6618798E+02
20.0	3	+3.5900000E+02	+1.2999999E+01	+3.8200000E+02	+3.5600000E+02	+4.7001464E+02
21.0	3	+5.0066650E+02	+5.2067167E+01	+5.6700000E+02	+4.4400000E+02	+4.7384130E+02
22.0	3	+5.3366650E+02	+3.8109491E+01	+5.7000000E+02	+4.9400000E+02	+4.7766796E+02
23.0	3	+5.1100000E+02	+1.7521415E+01	+5.2900000E+02	+4.9400000E+02	+4.8149462E+02
28.0	5	+5.3600000E+02	+4.2703529E+01	+5.8000000E+02	+4.8500000E+02	+5.0062792E+02
30.0	6	+5.5083325E+02	+1.3210059E+02	+6.7500000E+02	+4.2300000E+02	+5.0828125E+02
32.0	3	+5.9666650E+02	+1.2897028E+01	+6.1100000E+02	+5.8600000E+02	+5.1593457E+02
33.0	3	+5.5200000E+02	+1.2767145E+01	+5.7300000E+02	+5.4800000E+02	+5.1976123E+02
55.0	3	+5.1766650E+02	+1.3051181E+01	+5.2800000E+02	+5.0300000E+02	+6.0394799E+02
56.0	3	+5.9600000E+02	+2.7784887E+01	+6.1400000E+02	+5.6400000E+02	+6.0777465E+02

ANB 3066 PROPELLANT(ANB), TENSILE MODULUS, 0.0002 IN/MIN, 77 DEG F, LINED CTN



ANB 3066 PROPELLANT (ANB, P) TENSILE MAX STRESS, .0002 IN/MIN, UNLND CTNS, 77 D

Figure 4-10

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	7	+7.074707OE+01	+4.1623044E+00	+7.7299987E+01	+6.6439987E+01	+8.0820632E+01
15.0	10	+8.3819915E+01	+3.8597922E+00	+9.0399993E+01	+7.8500000E+01	+8.0887588E+01
16.0	17	+7.9008743E+01	+4.8830510E+00	+8.9899993E+01	+7.4C99990E+01	+8.0[illegible]21081E+01
17.0	13	+7.8359130E+01	+6.5761148E+00	+8.8299987E+01	+6.6719985E+01	+8.0954559E+01
18.0	12	+7.2300735E+01	+7.0548569E+00	+8.6399993E+01	+5.9099990E+01	+8.0988037E+01
19.0	6	+7.4619903E+01	+2.4959304E+00	+7.8799987E+01	+7.2599990E+01	+8.1021530E+01
20.0	11	+7.8478088E+01	+4.7573785E+00	+8.5349990E+01	+6.9609985E+01	+8.1055007E+01
21.0	8	+8.2459930E+01	+2.8942507E+00	+8.4519989E+01	+7.6399993E+01	+8.1088485E+01
22.0	5	+7.0319961E+01	+3.1365726E+00	+7.4599990E+01	+6.7C99990E+01	+8.1121978E+01
23.0	5	+8.8819915E+01	+1.9780267E+00	+9.1099990E+01	+8.6599990E+01	+8.1155456E+01
24.0	4	+7.8579956E+01	+1.7070925E+00	+8.1000000E+01	+7.7000000E+01	+8.1188934E+01
25.0	17	+7.8815780E+01	+6.2413797E+00	+8.6809997E+01	+6.8919998E+01	+8.1222427E+01
26.0	19	+7.6367828E+01	+6.7313489E+00	+9.0109985E+01	+6.7829986E+01	+8.1255905E+01
27.0	12	+8.5735748E+01	+5.5102726E+00	+9.5399993E+01	+7.4659988E+01	+8.1289382E+01
28.0	15	+8.8666580E+01	+6.9666927E+00	+1.0629998E+02	+7.5599990E+01	+8.1322875E+01
30.0	5	+8.3499938E+01	+2.7735915E+00	+8.5899993E+01	+7.9199996E+01	+8.1389831E+01
32.0	8	+8.1073699E+01	+4.1918954E+00	+8.6799987E+01	+7.5000000E+01	+8.1456802E+01
33.0	14	+8.3916351E+01	+6.9854960E+00	+9.2899993E+01	+6.8089996E+01	+8.1490280E+01
34.0	11	+7.6564468E+01	+3.5355466E+00	+8.3009994E+01	+7.1500000E+01	+8.1523757E+01
35.0	13	+8.3602981E+01	+3.5570796E+00	+8.7019989E+01	+7.5599990E+01	+8.1557250E+01
36.0	16	+8.0181167E+01	+7.0837174E+00	+9.0599990E+01	+6.6329986E+01	+8.1590728E+01
37.0	11	+8.1827178E+01	+5.3529492E+00	+8.8199996E+01	+7.0199996E+01	+8.1624206E+01
38.0	14	+8.1428497E+01	+4.5859325E+00	+8.7399993E+01	+6.9919993E+01	+8.1657699E+01
39.0	3	+9.3766601E+01	+1.5027080E+00	+9.5000000E+01	+9.2099990E+01	+8.1691177E+01
40.0	10	+8.5189910E+01	+6.1046924E+00	+9.2000000E+01	+7.5239990E+01	+8.1724655E+01
42.0	3	+7.9809997E+01	+1.0521318E+00	+8.1000000E+01	+7.9C00000E+01	+8.1791625E+01
43.0	1	+9.2239990E+01	+0.0000000E+95	+9.2239990E+01	+9.2239990E+01	+8.1825103E+01
44.0	15	+7.7590545E+01	+6.8680821E+00	+8.7899993E+01	+6.1500000E+01	+8.1858581E+01
45.0	15	+7.6226562E+01	+5.3317113E+00	+8.3799987E+01	+6.6799987E+01	+8.1892074E+01
46.0	15	+7.9643264E+01	+3.4158146E+00	+8.6199996E+01	+7.3799987E+01	+8.1925552E+01
49.0	11	+7.9157196E+01	+1.1960118E+01	+9.7269989E+01	+6.3199996E+01	+8.2026000E+01

ANB 3066 PROPELLANT (ANB, P) TENSILE MAX STRESS, .0002 IN/MIN, UNLND CTNS, 77 D [illegible]

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
50.0	19	+7.981253JE+01	+7.8606442E+00	+9.2399993E+01	+6.5899993E+01	+8.2059478E+01
51.0	25	+8.5123901E+01	+5.1524250F+00	+9.6039993E+01	+7.7199996E+01	+8.2092971E+01
52.0	14	+8.1936325E+01	+6.2075534E+00	+9.5799987E+01	+6.5799987E+01	+8.2126449E+01
53.0	3	+8.7699951E+01	+6.3713006E+00	+9.5039993E+01	+8.3609985E+01	+8.2159927E+01
54.0	3	+7.0766662E+01	+1.0366433E+01	+7.7000000E+01	+5.8799987E+01	+8.2193420E+01
55.0	24	+8.3546188E+01	+5.0205792E+00	+9.5699996E+01	+7.6699996E+01	+8.2226898E+01
56.0	40	+7.9875137E+01	+5.1723536E+00	+9.1399993E+01	+6.6669998E+01	+8.2260375E+01
57.0	43	+7.8967117E+01	+6.4682591E+00	+8.9699996E+01	+6.9500000E+01	+8.2293869E+01
58.0	23	+8.5711639E+01	+5.9182130E+00	+9.5000000E+01	+7.2869995E+01	+8.2327346E+01
59.0	9	+8.9344360E+01	+3.9764250E+00	+9.6199996E+01	+8.4500000E+01	+8.2360824E+01
61.0	9	+8.0888778E+01	+1.4535365E+01	+9.4000000E+01	+6.1199996E+01	+8.2427795E+01
62.0	17	+8.6275756E+01	+7.6034459E+00	+9.5599990E+01	+7.0049987E+01	+8.2461273E+01
63.0	30	+8.8283569E+01	+6.3571462E+00	+9.8599990E+01	+7.4000000E+01	+8.2494750E+01
64.0	7	+8.6877044E+01	+8.5737566E+00	+9.7799987E+01	+7.4569992E+01	+8.2528244E+01
65.0	10	+8.4559936E+01	+3.8951016E+00	+8.9199996E+01	+7.7059990E+01	+8.2561721E+01
66.0	15	+9.7366561E+01	+6.2128529E+00	+1.0559999E+02	+8.6599990E+01	+8.2595199E+01
67.0	28	+8.7310607E+01	+7.4849522E+00	+9.7500000E+01	+7.4299987E+01	+8.2628692E+01
68.0	20	+8.4189926E+01	+8.3661801E+00	+1.0029998E+02	+6.1399993E+01	+8.2662170E+01
69.0	7	+8.1732757E+01	+3.5895836E+00	+8.6599990E+01	+7.6539993E+01	+8.2695648E+01
70.0	23	+7.7684906E+01	+8.8956704E+00	+9.3599990E+01	+6.6099990E+01	+8.2729141E+01
71.0	23	+8.1577713E+01	+1.2698729E+01	+1.0539999E+02	+6.8399993E+01	+8.2762619E+01
72.0	17	+8.4554580E+01	+4.7326721E+00	+9.4279998E+01	+7.7379989E+01	+8.2796096E+01
73.0	10	+8.7589934E+01	+5.6764808E+00	+9.6500000E+01	+7.7399993E+01	+8.2829589E+01
74.0	5	+8.5019912E+01	+3.2135109E+00	+8.9299987E+01	+8.1599990E+01	+8.2863067E+01
75.0	10	+8.8879928E+01	+7.0416618E+00	+1.0250000E+02	+8.1899993E+01	+8.2896545E+01
76.0	8	+8.0949951E+01	+4.5146011E+00	+8.9500000E+01	+7.5399993E+01	+8.2930023E+01
77.0	12	+8.7608230E+01	+4.2279051E+00	+9.6299987E+01	+8.1599990E+01	+8.2963516E+01
78.0	16	+8.4507431E+01	+3.8721708E+00	+8.9899993E+01	+7.5369995E+01	+8.2996994E+01
79.0	12	+9.2342407E+01	+1.3520801E+01	+1.0729998E+02	+7.5119995E+01	+8.3030471E+01
80.0	18	+8.0212081E+01	+6.6669509E+00	+8.9399993E+01	+7.0269989E+01	+8.3063964E+01
81.0	10	+7.4216888E+01	+7.8909002E+00	+8.4119995E+01	+5.5299987E+01	+8.3097442E+01

ANB 3066 PROPELLANT (ANB, PI TENSILE MAX STRESS, .0002 IN/MIN, UNLND CTNS, 77 D

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
82.0	12	+9.0249893E+01	+5.3100063E+00	+9.8599990E+01	+8.1399993E+01	+8.3130920E+01
83.0	12	+8.6787384E+01	+4.1935121E+00	+9.4659988E+01	+7.7599990E+01	+8.3164413E+01
84.0	24	+8.8729888E+01	+7.0102647E+00	+1.0600000E+02	+7.9209991E+01	+8.3197891E+01
85.0	12	+8.3169876E+01	+9.1552288E+00	+9.4099990E+01	+6.4239990E+01	+8.3231369E+01
86.0	9	+7.6021011E+01	+4.6528383E+00	+8.4899993E+01	+6.9799987E+01	+8.3264862E+01
87.0	19	+8.3685211E+01	+6.5969502E+00	+9.7539993E+01	+7.3199996E+01	+8.3298339E+01
88.0	25	+8.3972702E+01	+7.7686135E+00	+9.7519989E+01	+6.8829986E+01	+8.3331817E+01
89.0	13	+8.5192169E+01	+6.3294807E+00	+9.5329986E+01	+7.4679992E+01	+8.3365295E+01
91.0	2	+7.4500000E+01	+7.0710678E-01	+7.5000000E+01	+7.4000000E+01	+8.3432266E+01
92.0	7	+7.4525665E+01	+4.6426899E+00	+7.7979995E+01	+6.4739990E+01	+8.3465744E+01
93.0	10	+8.5220916E+01	+6.4264478E+00	+9.3049987E+01	+7.4979995E+01	+8.3499237E+01
94.0	4	+7.7774963E+01	+7.9545742E+00	+8.6199996E+01	+6.9799987E+01	+8.3532714E+01
95.0	5	+8.2637939E+01	+4.5410274E+00	+8.9500000E+01	+7.6819992E+01	+8.3566192E+01
96.0	5	+9.1609954E+01	+4.0274052E+00	+9.6500000E+01	+8.6539987E+01	+8.3599685E+01
99.0	4	+8.4627441E+01	+7.0610128E+00	+9.3000000E+01	+7.7009994E+01	+8.3700134E+01
100.0	2	+8.6500000E+01	+1.2020815E+01	+9.5000000E+01	+7.8000000E+01	+8.3733612E+01
101.0	2	+8.7304992E+01	+9.3408097E+00	+9.3909988E+01	+8.0699996E+01	+8.3767089E+01
103.0	2	+8.8000000E+01	+2.8284271E+00	+9.0000000E+01	+8.6000000E+01	+8.3834060E+01
104.0	2	+8.8804992E+01	+1.6053100E+00	+8.9939987E+01	+8.7669998E+01	+8.3867538E+01
105.0	9	+8.6852157E+01	+6.4330381E+00	+9.7579986E+01	+7.8539993E+01	+8.3901016E+01
106.0	9	+7.3585464E+01	+8.6625471E+00	+8.7309997E+01	+6.2679992E+01	+8.3934509E+01
108.0	3	+7.3999984E+01	+2.0884523E+00	+7.5969985E+01	+7.1809997E+01	+8.4001464E+01
109.0	5	+7.6671920E+01	+2.3890627E+00	+7.9459991E+01	+7.2979995E+01	+8.4034957E+01
110.0	11	+7.6852645E+01	+8.0280570E+00	+9.2299987E+01	+6.5479995E+01	+8.4068435E+01
111.0	5	+7.4815963E+01	+6.3961829E+00	+8.3419998E+01	+6.7479995E+01	+8.4101913E+01
112.0	6	+8.4594924E+01	+1.1615481E+01	+1.0252999E+02	+7.2969985E+01	+8.4135406E+01
113.0	9	+6.9286529E+01	+8.9053441E+00	+7.7750000E+01	+4.8799987E+01	+8.4168884E+01
114.0	3	+7.6633331E+01	+9.1038266E+00	+8.4199996E+01	+6.6529998E+01	+8.4202362E+01
115.0	3	+8.5049987E+01	+4.1254758E+00	+8.9639999E+01	+8.1649993E+01	+8.4235855E+01
116.0	6	+8.2041534E+01	+6.1798626E+00	+9.2209991E+01	+7.5779998E+01	+8.4269332E+01
117.0	3	+7.5339996E+01	+4.9971951E+00	+7.8279998E+01	+6.9569992E+01	+8.4302810E+01

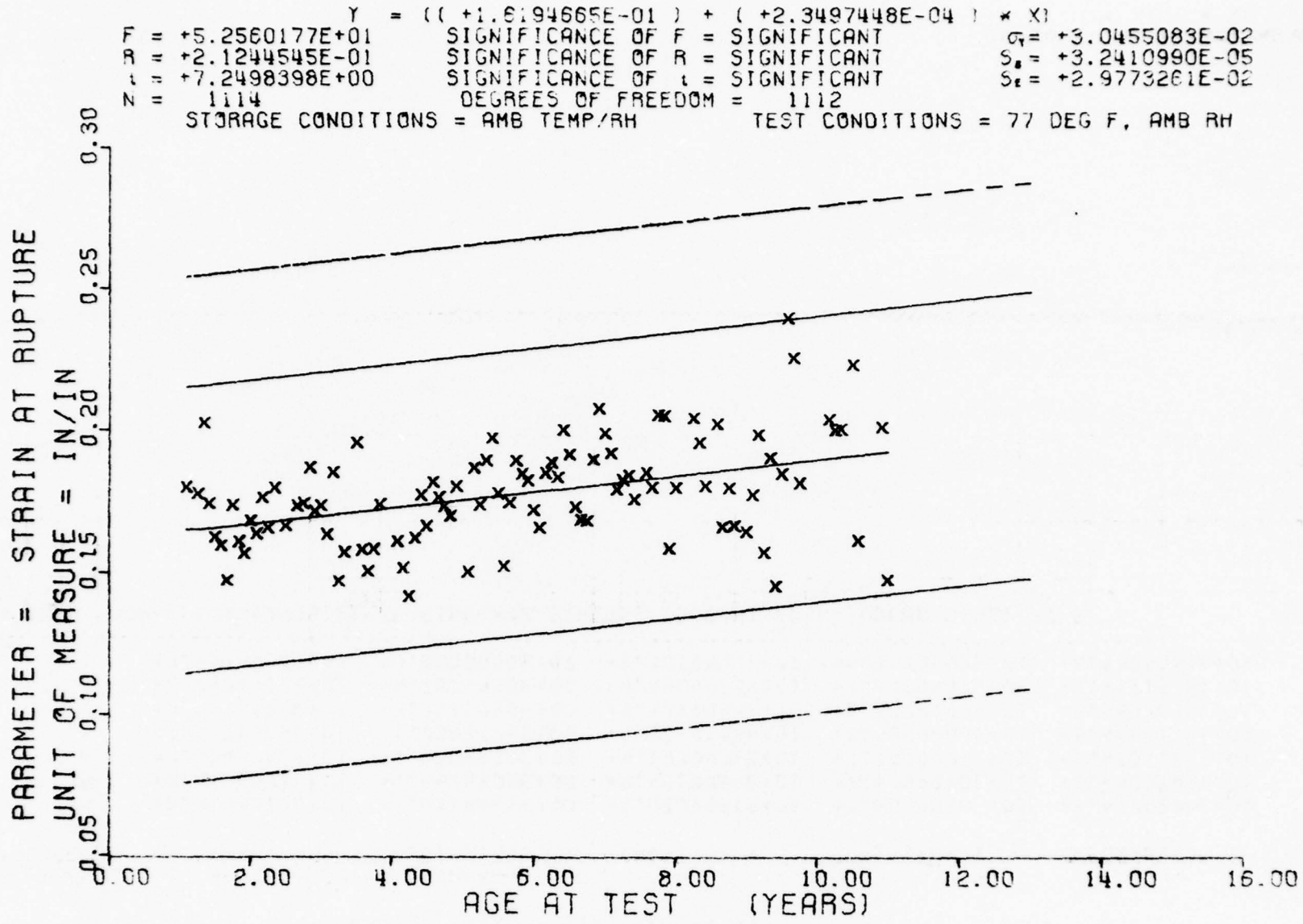
ANB 3066 PROPELLANT (ANB, P) TENSILE MAX STRESS, .0002 IN/MIN, UNLND CTNS, 77 D

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
122.0	3	+8.4193313E+01	+6.6314665E+00	+8.8709991E+01	+7.6579986E+01	+8.4470230E+01
123.0	9	+8.6126571E+01	+7.4528330E+00	+9.4019989E+01	+7.4099990E+01	+8.4503707E+01
124.0	6	+8.3243240E+01	+7.2501275E+00	+9.1979995E+01	+7.3059997E+01	+8.4537185E+01
126.0	6	+7.3171585E+01	+1.2381426E+01	+9.1099990E+01	+5.9250000E+01	+8.4604156E+01
127.0	3	+9.0096584E+01	+3.3926286E+00	+9.3039993E+01	+8.6389999E+01	+8.4637634E+01
131.0	8	+8.7409912E+01	+6.1024950E+00	+9.5909988E+01	+7.8309997E+01	+8.4771575E+01
132.0	1	+9.3679992E+01	+0.0000000E+87	+9.3679992E+01	+9.3679992E+01	+8.4805053E+01

ANB 3066 PROPELLANT (ANB. P) TENSILE MAX STRESS, .0092 IN/MIN, UNLND CTNS, 77 D



ANB 3066 PROPELLANT (ANB, P) TENSILE STN @ RUP, .0002 IN/MIN, UNLND CTNS, 77 DG

Figure 4-11

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	7	+1.8035697E-01	+1.0419620E-02	+1.9399994E-01	+1.6829997E-01	+1.6500127E-01
15.0	10	+1.7799967E-01	+1.9795903E-02	+2.0599997E-01	+1.5199995E-01	+1.6547125E-01
16.0	17	+2.0281732E-01	+1.3676098E-02	+2.2399997E-01	+1.7899996E-01	+1.6570621E-01
17.0	13	+1.7459970E-01	+1.1768822E-02	+1.9399994E-01	+1.4999997E-01	+1.6594117E-01
18.0	12	+1.6291642E-01	+2.2963594E-02	+1.9399994E-01	+1.2689995E-01	+1.6617614E-01
19.0	6	+1.5988326E-01	+2.4644519E-02	+1.9599997E-01	+1.3329994E-01	+1.6641116E-01
20.0	11	+1.4759981E-01	+1.1039369E-02	+1.7199999E-01	+1.2559998E-01	+1.6664612E-01
21.0	8	+1.7409980E-01	+3.4463648E-02	+2.0799994E-01	+1.2399995E-01	+1.6688108E-01
22.0	5	+1.6119992E-01	+1.5465868E-02	+1.7199999E-01	+1.3399994E-01	+1.6711604E-01
23.0	5	+1.5699994E-01	+3.3157719E-03	+1.6199994E-01	+1.5299999E-01	+1.6735100E-01
24.0	4	+1.6859996E-01	+2.2947752E-02	+1.9739997E-01	+1.4199995E-01	+1.6758602E-01
25.0	17	+1.6405260E-01	+1.7813899E-02	+1.9759994E-01	+1.4399999E-01	+1.6782099E-01
26.0	19	+1.7675751E-01	+1.8749113E-02	+2.1999996E-01	+1.4799994E-01	+1.6805595E-01
27.0	12	+1.6594123E-01	+1.6077155E-02	+1.9889998E-01	+1.4959996E-01	+1.6829091E-01
28.0	15	+1.8013298E-01	+1.8278059E-02	+2.0999997E-01	+1.4799994E-01	+1.6852593E-01
30.0	5	+1.6679996E-01	+1.3006875E-02	+1.8399995E-01	+1.4999997E-01	+1.6899585E-01
32.0	8	+1.7372465E-01	+1.0905742E-02	+1.8899995E-01	+1.5999996E-01	+1.6946578E-01
33.0	14	+1.7472821E-01	+1.9605620E-02	+2.0869994E-01	+1.4799994E-01	+1.6970080E-01
34.0	11	+1.8729978E-01	+1.5596287E-02	+2.1199995E-01	+1.5799999E-01	+1.6993576E-01
35.0	13	+1.7193043E-01	+1.7216866E-02	+2.0479995E-01	+1.3759994E-01	+1.7017072E-01
36.0	16	+1.7404347E-01	+2.5574491E-02	+2.1409994E-01	+1.4499998E-01	+1.7040568E-01
37.0	11	+1.6372692E-01	+2.3581599E-02	+2.1199995E-01	+1.2999999E-01	+1.7064070E-01
38.0	14	+1.8553531E-01	+1.7678440E-02	+2.1399998E-01	+1.6299998E-01	+1.7087566E-01
39.0	3	+1.4733326E-01	+1.7473590E-02	+1.6199994E-01	+1.2799996E-01	+1.7111063E-01
40.0	10	+1.5745979E-01	+2.9717533E-02	+1.9999998E-01	+1.1799997E-01	+1.7134559E-01
42.0	3	+1.9599992E-01	+1.9998497E-03	+1.9799995E-01	+1.9399994E-01	+1.7181557E-01
43.0	1	+1.5839999E-01	+0.0000000E+95	+1.5839999E-01	+1.5839999E-01	+1.7205053E-01
44.0	15	+1.5086638E-01	+2.2934212E-02	+1.9679999E-01	+1.1399996E-01	+1.7228549E-01
45.0	15	+1.5865302E-01	+2.0422699E-02	+1.9399994E-01	+1.2500000E-01	+1.7252045E-01
46.0	15	+1.7422634E-01	+2.0129875E-02	+2.0239996E-01	+1.4199995E-01	+1.7275542E-01
49.0	11	+1.6140884E-01	+2.5069977E-02	+1.9999998E-01	+1.1399996E-01	+1.7346036E-01

ANB 3066 PROPELLANT (ANB, P) TENSILE STN @ RUP, .0002 IN/MIN, UNLND CTNS, 77 DG

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
50.0	19	+1.5196287E-01	+3.5636181E-02	+2.2399997E-01	+1.0399997E-01	+1.7369532E-01
51.0	25	+1.4199161E-01	+3.3699536E-02	+2.0599997E-01	+9.9999964E-02	+1.7393034E-01
52.0	14	+1.6235691E-01	+2.7909862E-02	+2.1959996E-01	+1.2199997E-01	+1.7416530E-01
53.0	3	+1.7759996E-01	+2.3422542E-02	+2.0039999E-01	+1.5359997E-01	+1.7440026E-01
54.0	3	+1.6666662E-01	+2.1385195E-02	+1.7999994E-01	+1.4199995E-01	+1.7463523E-01
55.0	26	+1.8208414E-01	+2.5043145E-02	+2.2199994E-01	+1.2399995E-01	+1.7487019E-01
56.0	40	+1.7675703E-01	+2.5061506E-02	+2.3299998E-01	+1.0999995E-01	+1.7510521E-01
57.0	43	+1.7359948E-01	+2.0755595E-02	+2.0799994E-01	+1.2719994E-01	+1.7534017E-01
58.0	23	+1.7020827E-01	+2.0157373E-02	+2.0999997E-01	+1.2799996E-01	+1.7557513E-01
59.0	9	+1.8066638E-01	+1.2493528E-02	+1.9399994E-01	+1.6199994E-01	+1.7581009E-01
61.0	9	+1.5066629E-01	+2.9151734E-02	+1.8799996E-01	+1.0999995E-01	+1.7628008E-01
62.0	17	+1.8711721E-01	+3.4398832E-02	+2.3179996E-01	+1.0999995E-01	+1.7651504E-01
63.0	30	+1.7414629E-01	+2.7892462E-02	+2.3399996E-01	+1.3119995E-01	+1.7675000E-01
64.0	7	+1.8959981E-01	+2.2439954E-02	+2.0799994E-01	+1.4319998E-01	+1.7698496E-01
65.0	10	+1.9759976E-01	+2.9103099E-02	+2.5000000E-01	+1.6399997E-01	+1.7721998E-01
66.0	15	+1.7826622E-01	+3.8158148E-02	+2.3599994E-01	+1.2599999E-01	+1.7745494E-01
67.0	28	+1.5260678E-01	+3.4945827E-02	+2.1999996E-01	+1.0799998E-01	+1.7768990E-01
68.0	20	+1.7489969E-01	+4.2220750E-02	+2.5999999E-01	+1.1999994E-01	+1.7792487E-01
69.0	7	+1.8965703E-01	+2.0836405E-02	+2.2399997E-01	+1.5799999E-01	+1.7815983E-01
70.0	20	+1.8498951E-01	+2.6880412E-02	+2.6199996E-01	+1.2199997E-01	+1.7839485E-01
71.0	23	+1.8265181E-01	+3.5193766E-02	+2.5399994E-01	+1.0599994E-01	+1.7862981E-01
72.0	17	+1.7228782E-01	+1.8290688E-02	+1.9749999E-01	+1.4329999E-01	+1.7886477E-01
73.0	10	+1.6599977E-01	+2.2882434E-02	+1.9199997E-01	+1.1399996E-01	+1.7909973E-01
74.0	5	+1.8519997E-01	+1.5974771E-02	+2.0599997E-01	+1.6799998E-01	+1.7933475E-01
75.0	10	+1.8899965E-01	+2.5022222E-02	+2.2199994E-01	+1.3599998E-01	+1.7956972E-01
76.0	8	+1.8387472E-01	+1.0859271E-02	+2.0299994E-01	+1.6599995E-01	+1.7980468E-01
77.0	12	+2.0049965E-01	+2.3405736E-02	+2.4599999E-01	+1.6599994E-01	+1.8003964E-01
78.0	16	+1.9194972E-01	+2.3570380E-02	+2.3299998E-01	+1.4789998E-01	+1.8027460E-01
79.0	12	+1.7348295E-01	+2.7154934E-02	+2.2299998E-01	+1.2599999E-01	+1.8050962E-01
80.0	18	+1.6902184E-01	+2.6831840E-02	+2.1599996E-01	+1.2189996E-01	+1.8074458E-01
81.0	10	+1.6867971E-01	+3.4961165E-02	+2.1599996E-01	+1.1099994E-01	+1.8097954E-01

ANB 3066 PROPELLANT (ANB, P) TENSILE STN @ RUP, .0002 IN/MIN, UNLND CTNS, 77 DG

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
82.0	12	+1.9016635E-01	+1.8965362E-02	+2.2799998E-01	+1.6799998E-01	+1.8121451E-01
83.0	12	+2.0805799E-01	+2.1316088E-02	+2.3999994E-01	+1.6469997E-01	+1.8144953E-01
84.0	24	+1.9929540E-01	+2.4828079E-02	+2.5089997E-01	+1.5799999E-01	+1.8168449E-01
85.0	12	+1.9234955E-01	+1.8855970E-02	+2.0999997E-01	+1.4599996E-01	+1.8191945E-01
86.0	9	+1.7956638E-01	+1.6055850E-02	+1.9599997E-01	+1.4799994E-01	+1.8215441E-01
87.0	19	+1.8304163E-01	+3.9073263E-02	+2.6999998E-01	+1.1279994E-01	+1.8238937E-01
88.0	25	+1.8446356E-01	+3.6339346E-02	+2.6699995E-01	+8.5199952E-02	+1.8262439E-01
89.0	13	+1.7617672E-01	+2.4117101E-02	+2.3039996E-01	+1.2699997E-01	+1.8285936E-01
91.0	2	+1.8549996E-01	+1.4848543E-02	+1.9599997E-01	+1.7499995E-01	+1.8332928E-01
92.0	7	+1.8039989E-01	+1.5428788E-02	+1.9359999E-01	+1.4959996E-01	+1.8356424E-01
93.0	10	+2.0571964E-01	+3.5314323E-02	+2.8319996E-01	+1.6799998E-01	+1.8379926E-01
94.0	4	+2.0544993E-01	+3.5150674E-02	+2.2799998E-01	+1.5299999E-01	+1.8403422E-01
95.0	5	+1.5891993E-01	+1.4021155E-02	+1.7729997E-01	+1.4039999E-01	+1.8426918E-01
96.0	5	+1.8011993E-01	+2.4303308E-02	+2.1299999E-01	+1.5279996E-01	+1.8450415E-01
99.0	4	+2.0464992E-01	+3.3090953E-02	+2.4159997E-01	+1.6899996E-01	+1.8520909E-01
100.0	2	+1.9599997E-01	+5.2326007E-02	+2.3299998E-01	+1.5899997E-01	+1.8544405E-01
101.0	2	+1.8079996E-01	+3.0546591E-02	+2.0239996E-01	+1.5919995E-01	+1.8567901E-01
103.0	2	+2.0249992E-01	+1.9091691E-02	+2.1599996E-01	+1.8899995E-01	+1.8614900E-01
104.0	2	+1.6639995E-01	+1.1430024E-03	+1.6719996E-01	+1.6559994E-01	+1.8638396E-01
105.0	9	+1.8013304E-01	+2.7896107E-02	+2.2199994E-01	+1.3679999E-01	+1.8661892E-01
106.0	9	+1.6682195E-01	+5.4799081E-02	+2.5269997E-01	+9.3299984E-02	+1.8685394E-01
108.0	3	+1.6469997E-01	+9.9225311E-03	+1.7699995E-01	+1.5799999E-01	+1.8732386E-01
109.0	5	+1.7759996E-01	+1.4257707E-02	+1.9599997E-01	+1.5999996E-01	+1.8755882E-01
110.0	11	+1.9871789E-01	+3.2342236E-02	+2.5779998E-01	+1.6239994E-01	+1.8779379E-01
111.0	5	+1.5747994E-01	+4.1513829E-02	+2.2299998E-01	+1.1069995E-01	+1.8802881E-01
112.0	6	+1.9066649E-01	+5.4617228E-02	+2.5219994E-01	+1.1819994E-01	+1.8826377E-01
113.0	9	+1.4561098E-01	+5.4226581E-02	+2.5099998E-01	+8.1599957E-02	+1.8849873E-01
114.0	3	+1.8499994E-01	+4.8507453E-02	+2.3299998E-01	+1.3599997E-01	+1.8873369E-01
115.0	3	+2.3976659E-01	+2.2210882E-02	+2.5999999E-01	+2.1599996E-01	+1.8896865E-01
116.0	6	+2.2569972E-01	+1.5951211E-02	+2.4799996E-01	+2.0439994E-01	+1.8920367E-01
117.0	3	+1.8179994E-01	+3.9222634E-03	+1.8449997E-01	+1.7729997E-01	+1.8943864E-01

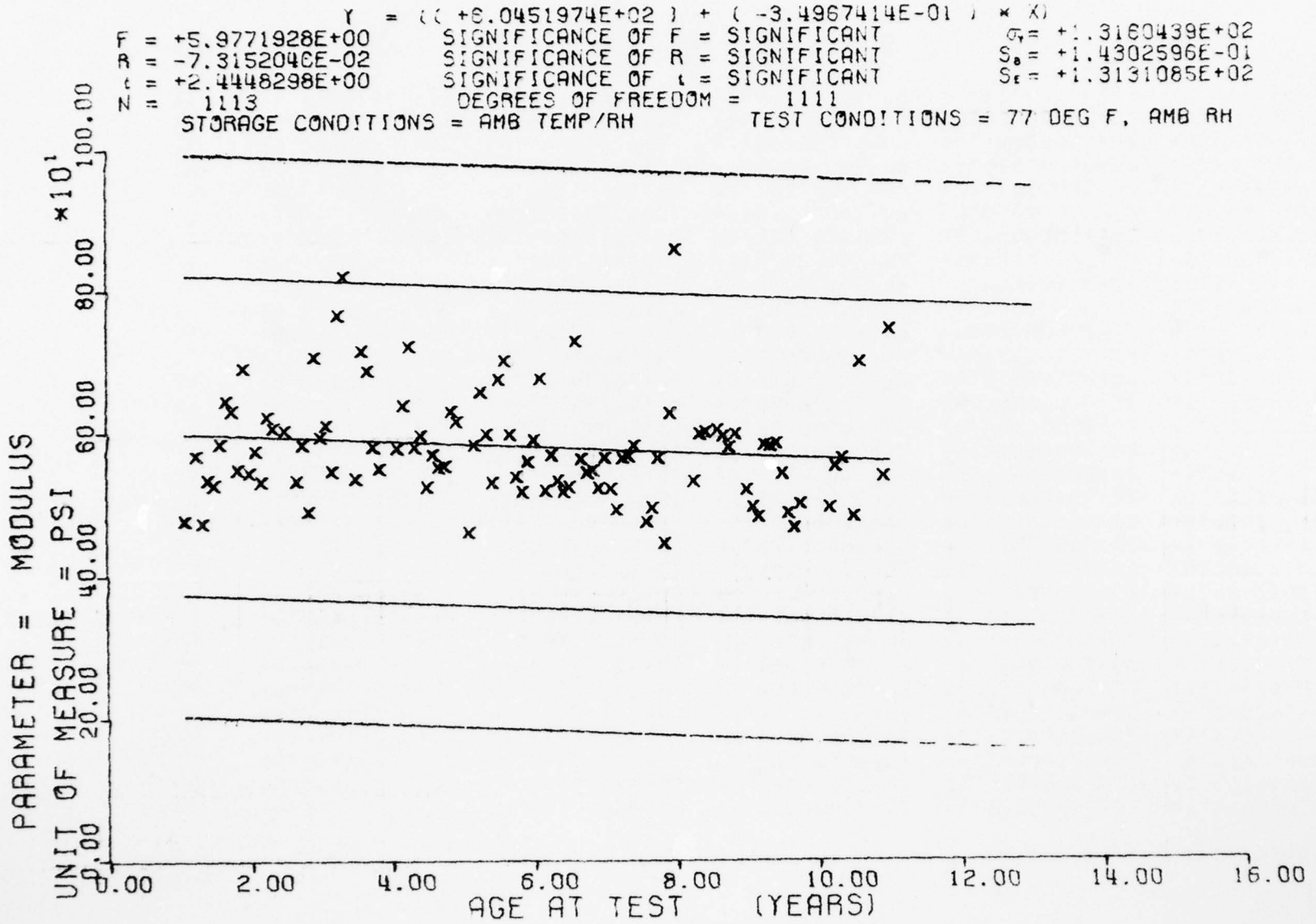
ANB 3066 PROPELLANT (ANB, P) TENSILE STN @ RUP, .0002 IN/MIN, UNLND CTNS, 77 DG

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
122.0	3	+2.0399993E-01	+2.9430655E-02	+2.3629999E-01	+1.7869997E-01	+1.9061350E-01
123.0	9	+2.0031088E-01	+3.1968413E-02	+2.5359994E-01	+1.6199994E-01	+1.9084846E-01
124.0	6	+2.0064973E-01	+2.7934156E-02	+2.3499995E-01	+1.5599995E-01	+1.9108343E-01
126.0	6	+2.2331649E-01	+5.0069649E-02	+2.8899997E-01	+1.5469998E-01	+1.9155341E-01
127.0	3	+1.6163331E-01	+3.0679355E-02	+1.8419998E-01	+1.2669998E-01	+1.9178837E-01
131.0	8	+2.0136237E-01	+2.3453117E-02	+2.3829996E-01	+1.7099994E-01	+1.9272828E-01
132.0	1	+1.4789996E-01	+0.0000000E+87	+1.4789998E-01	+1.4789998E-01	+1.9296324E-01

ANB 3066 PROPELLANT (ANB, P) TENSILE STN @ RUP, .0002 IN/MIN, UNLND CTNS, 77 DG



ANB 3066 PROPELLANT (ANB, P) TENSILE MODULUS, .0002 IN/MIN, UNLND CTNS, 77 DEG

Figure 4-12

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	7	+4.7828564E+02	+3.2273385E+01	+5.1200000E+02	+4.3200000E+02	+5.9997387E+02
15.0	10	+5.6939990E+02	+6.7163482E+01	+6.7300000E+02	+4.9100000E+02	+5.9927441E+02
16.0	17	+4.7517626E+02	+6.2643071E+01	+6.2900000E+02	+4.0800000E+02	+5.9892480E+02
17.0	13	+5.3538452E+02	+6.7632017E+01	+7.1300000E+02	+4.4100000E+02	+5.9857519E+02
18.0	12	+5.2791650E+02	+9.3672018E+01	+7.1900000E+02	+4.2000000E+02	+5.9822558E+02
19.0	6	+5.8566650E+02	+8.2814652E+01	+6.7300000E+02	+4.7100000E+02	+5.9787573E+02
20.0	11	+6.4618164E+02	+7.0118211E+01	+8.1400000E+02	+5.6100000E+02	+5.9752612E+02
21.0	8	+6.3187500E+02	+1.1014073E+02	+7.8500000E+02	+5.3900000E+02	+5.9717651E+02
22.0	5	+5.4939990E+02	+6.1561351E+01	+6.5800000E+02	+5.1100000E+02	+5.9682690E+02
23.0	5	+6.0219995E+02	+2.3562682E+01	+7.0700000E+02	+6.5300000E+02	+5.9647705E+02
24.0	4	+5.4525000E+02	+6.7009327E+01	+6.4400000E+02	+4.9500000E+02	+5.9612744E+02
25.0	17	+5.7617626E+02	+8.8794872E+01	+6.8000000E+02	+4.3700000E+02	+5.9577783E+02
26.0	19	+5.3226293E+02	+7.3550316E+01	+6.7500000E+02	+4.1800000E+02	+5.9542797E+02
27.0	12	+6.2358325E+02	+7.1461952E+01	+7.6000000E+02	+5.2200000E+02	+5.9507836E+02
28.0	15	+6.0806665E+02	+6.1700273E+01	+6.9300000E+02	+4.7700000E+02	+5.9472875E+02
30.0	5	+6.0439990E+02	+6.0583000E+01	+7.0700000E+02	+5.4700000E+02	+5.9402929E+02
32.0	8	+5.3337500E+02	+6.0681692E+01	+6.3000000E+02	+4.8000000E+02	+5.9333007E+02
33.0	14	+5.8464282E+02	+9.1366217E+01	+7.3600000E+02	+4.7400000E+02	+5.9298046E+02
34.0	11	+4.9118164E+02	+7.3316871E+01	+5.9400000E+02	+4.0000000E+02	+5.9263061E+02
35.0	13	+7.0738452E+02	+2.4201395E+02	+1.3240000E+03	+5.1200000E+02	+5.9228100E+02
36.0	16	+5.9518750E+02	+1.0736741E+02	+7.4600000E+02	+4.1300000E+02	+5.9193139E+02
37.0	11	+6.1172705E+02	+1.1863228E+02	+7.7300000E+02	+4.2200000E+02	+5.9158178E+02
38.0	14	+5.4692846E+02	+7.6734772E+01	+6.6700000E+02	+3.9500000E+02	+5.9123193E+02
39.0	3	+7.6600000E+02	+9.3952115E+01	+8.7200000E+02	+6.9300000E+02	+5.9088232E+02
40.0	10	+8.2050000E+02	+2.6155570E+02	+1.2130000E+03	+4.9400000E+02	+5.9053271E+02
42.0	3	+5.3633325E+02	+2.8005951E+01	+5.5300000E+02	+5.0400000E+02	+5.8983325E+02
43.0	1	+7.1600000E+02	+0.0000000E+95	+7.1600000E+02	+7.1600000E+02	+5.8948364E+02
44.0	15	+6.8813330E+02	+1.2922232E+02	+9.6600000E+02	+4.5800000E+02	+5.8913403E+02
45.0	15	+5.8079980E+02	+9.4888807E+01	+7.5200000E+02	+4.5500000E+02	+5.8878417E+02
46.0	15	+5.5059985E+02	+4.5257674E+01	+6.2200000E+02	+4.8500000E+02	+5.8843457E+02
49.0	11	+5.7918164E+02	+1.3826772E+02	+8.0500000E+02	+4.1700000E+02	+5.8738549E+02

ANB 3066 PROPELLANT (ANB, P) TENSILE MODULUS, .0002 IN/MIN, UNLND CTNS, 77 DEG

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
50.0	19	+6.3921044E+02	+1.6296167E+02	+9.4200000E+02	+4.0CC0000E+02	+5.8703588E+02
51.0	25	+7.2207983E+02	+1.4536990E+02	+9.8600000E+02	+4.5900000E+02	+5.8668627E+02
52.0	14	+5.7985693E+02	+7.1546496E+01	+6.9000000E+02	+4.6200000E+02	+5.8633666E+02
53.0	3	+5.9700000E+02	+9.9984998E+01	+7.1000000E+02	+5.2CC0000E+02	+5.8598681E+02
54.0	3	+5.2433325E+02	+3.4990474E+01	+5.5200000E+02	+4.85C0000E+02	+5.8563720E+02
55.0	26	+5.7003833E+02	+1.0727850E+02	+8.5900000E+02	+4.2700000E+02	+5.8528759E+02
56.0	40	+5.5214990E+02	+9.1122219E+01	+8.4800000E+02	+3.9500000E+02	+5.8493798E+02
57.0	43	+5.5330224E+02	+8.7140973E+01	+7.3600000E+02	+4.1700000E+02	+5.8458813E+02
58.0	23	+6.3065209E+02	+9.7734151E+01	+8.7000000E+02	+4.9200000E+02	+5.8423852E+02
59.0	9	+6.1577758E+02	+7.0402020E+01	+7.3100000E+02	+5.28C0000E+02	+5.8388891E+02
61.0	9	+4.6100000E+02	+1.9080814E+02	+6.4500000E+02	+1.9700000E+02	+5.8318945E+02
62.0	17	+5.8294116E+02	+1.1805479E+02	+9.4700000E+02	+4.3200000E+02	+5.8283984E+02
63.0	30	+6.5743310E+02	+2.2169421E+02	+1.5150000E+03	+4.4000000E+02	+5.8249023E+02
64.0	7	+5.9857128E+02	+9.9991428E+01	+7.0600000E+02	+4.5400000E+02	+5.8214038E+02
65.0	10	+5.3039990E+02	+7.4415052E+01	+6.3200000E+02	+3.9200000E+02	+5.8179077E+02
66.0	15	+6.7500000E+02	+1.4889737E+02	+8.9500000E+02	+4.5300000E+02	+5.8144116E+02
67.0	28	+7.0128564E+02	+1.5714509E+02	+9.4700000E+02	+4.24C0000E+02	+5.8109155E+02
68.0	20	+5.9809985E+02	+1.6036894E+02	+9.6000000E+02	+3.6300000E+02	+5.8074169E+02
69.0	7	+5.3871411E+02	+6.3128742E+01	+6.1300000E+02	+4.7600000E+02	+5.8039208E+02
70.0	20	+5.1739990E+02	+9.1296740E+01	+8.0000000E+02	+4.2200000E+02	+5.8004248E+02
71.0	23	+5.5947802E+02	+1.6999515E+02	+1.0740000E+03	+3.8500000E+02	+5.7969287E+02
72.0	17	+5.9005859E+02	+8.5580715E+01	+7.6600000E+02	+4.6700000E+02	+5.7934301E+02
73.0	10	+6.7589990E+02	+1.2553666E+02	+9.7300000E+02	+4.8700000E+02	+5.7899340E+02
74.0	5	+5.1919995E+02	+5.1698162E+01	+5.8200000E+02	+4.6700000E+02	+5.7864379E+02
75.0	10	+5.6889990E+02	+9.7689360E+01	+7.2000000E+02	+4.4400000E+02	+5.7829394E+02
76.0	8	+5.3325000E+02	+4.7179747E+01	+6.0000000E+02	+4.5300000E+02	+5.7794433E+02
77.0	12	+5.1750000E+02	+8.5620197E+01	+6.4000000E+02	+4.1300000E+02	+5.7759472E+02
78.0	16	+5.2412500E+02	+6.7561206E+01	+6.6900000E+02	+4.4400000E+02	+5.7724511E+02
79.0	12	+7.2875000E+02	+1.2985245E+02	+9.3300000E+02	+4.09C0000E+02	+5.7689526E+02
80.0	18	+5.6316650E+02	+9.0777199E+01	+7.6100000E+02	+4.1500000E+02	+5.7654565E+02
81.0	10	+5.4409985E+02	+1.1085771E+02	+8.2900000E+02	+4.3300000E+02	+5.7619604E+02

ANB 3066 PROPELLANT (ANB, P) TENSILE MODULUS, .0002 IN/MIN, UNLND CTNS, 77 DEG

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
82.0	12	+5.4700000E+02	+7.2859765E+01	+6.8000000E+02	+4.6600000E+02	+5.7584643E+02
83.0	12	+5.2233325E+02	+6.2349941E+01	+6.4100000E+02	+4.5300000E+02	+5.7549658E+02
84.0	24	+5.6508325E+02	+9.0368288E+01	+8.2600000E+02	+4.3700000E+02	+5.7514697E+02
85.0	12	+5.2216650E+02	+7.4072241E+01	+6.4000000E+02	+4.2000000E+02	+5.7479736E+02
86.0	9	+4.9244433E+02	+4.7313082E+01	+5.5100000E+02	+4.0700000E+02	+5.7444775E+02
87.0	19	+5.6468408E+02	+1.4563426E+02	+9.5200000E+02	+3.4400000E+02	+5.7409790E+02
88.0	25	+5.6663989E+02	+1.1222220E+02	+8.7100000E+02	+3.2300000E+02	+5.7374829E+02
89.0	13	+5.8200000E+02	+1.0054518E+02	+8.0300000E+02	+4.2200000E+02	+5.7339868E+02
91.0	2	+4.7600000E+02	+7.0710678E+00	+4.8100000E+02	+4.7100000E+02	+5.7269921E+02
92.0	7	+4.9514282E+02	+1.2785780E+01	+5.1900000E+02	+4.8100000E+02	+5.7234960E+02
93.0	10	+5.6459985E+02	+5.0929581E+01	+6.3200000E+02	+4.7600000E+02	+5.7200000E+02
94.0	3	+4.4533325E+02	+4.1789153E+01	+4.8400000E+02	+4.0100000E+02	+5.7165014E+02
95.0	5	+6.2700000E+02	+5.8898217E+01	+7.1200000E+02	+5.6300000E+02	+5.7130053E+02
96.0	5	+8.5739990E+02	+3.6827544E+02	+1.3200000E+03	+5.1400000E+02	+5.7095092E+02
99.0	4	+5.3200000E+02	+1.1660474E+02	+6.6800000E+02	+4.0900000E+02	+5.6990185E+02
100.0	2	+5.9800000E+02	+1.0182337E+02	+6.7000000E+02	+5.2600000E+02	+5.6955224E+02
101.0	2	+6.0100000E+02	+1.5132085E+02	+7.0800000E+02	+4.9400000E+02	+5.6920263E+02
103.0	2	+6.0400000E+02	+6.2225396E+01	+6.4800000E+02	+5.6000000E+02	+5.6850317E+02
104.0	2	+5.9550000E+02	+3.1819805E+01	+6.1800000E+02	+5.7300000E+02	+5.6815356E+02
105.0	9	+5.7944433E+02	+9.2818520E+01	+7.2900000E+02	+4.3700000E+02	+5.6780395E+02
106.0	9	+5.9777758E+02	+2.3627355E+02	+1.0280000E+03	+3.4200000E+02	+5.6745410E+02
108.0	3	+5.2066650E+02	+9.4516312E+00	+5.2800000E+02	+5.1000000E+02	+5.6675488E+02
109.0	5	+4.9619990E+02	+4.1541545E+01	+5.4500000E+02	+4.3000000E+02	+5.6640502E+02
110.0	11	+4.8254541E+02	+6.5477268E+01	+6.3200000E+02	+3.9400000E+02	+5.6605541E+02
111.0	5	+5.8319995E+02	+1.4635812E+02	+7.7600000E+02	+3.9200000E+02	+5.6570581E+02
112.0	6	+5.8150000E+02	+1.7807947E+02	+8.6900000E+02	+3.7900000E+02	+5.6535620E+02
113.0	9	+5.8522216E+02	+1.4922950E+02	+8.0900000E+02	+4.1900000E+02	+5.6500634E+02
114.0	3	+5.4266650E+02	+1.8941312E+02	+7.4400000E+02	+3.6800000E+02	+5.6465673E+02
115.0	3	+4.8733325E+02	+6.0302017E+01	+5.5600000E+02	+4.4300000E+02	+5.6430712E+02
116.0	6	+4.6700000E+02	+6.2555575E+01	+5.7500000E+02	+3.8800000E+02	+5.6395751E+02
117.0	3	+5.0066650E+02	+3.3080709E+01	+5.2500000E+02	+4.6300000E+02	+5.6360766E+02

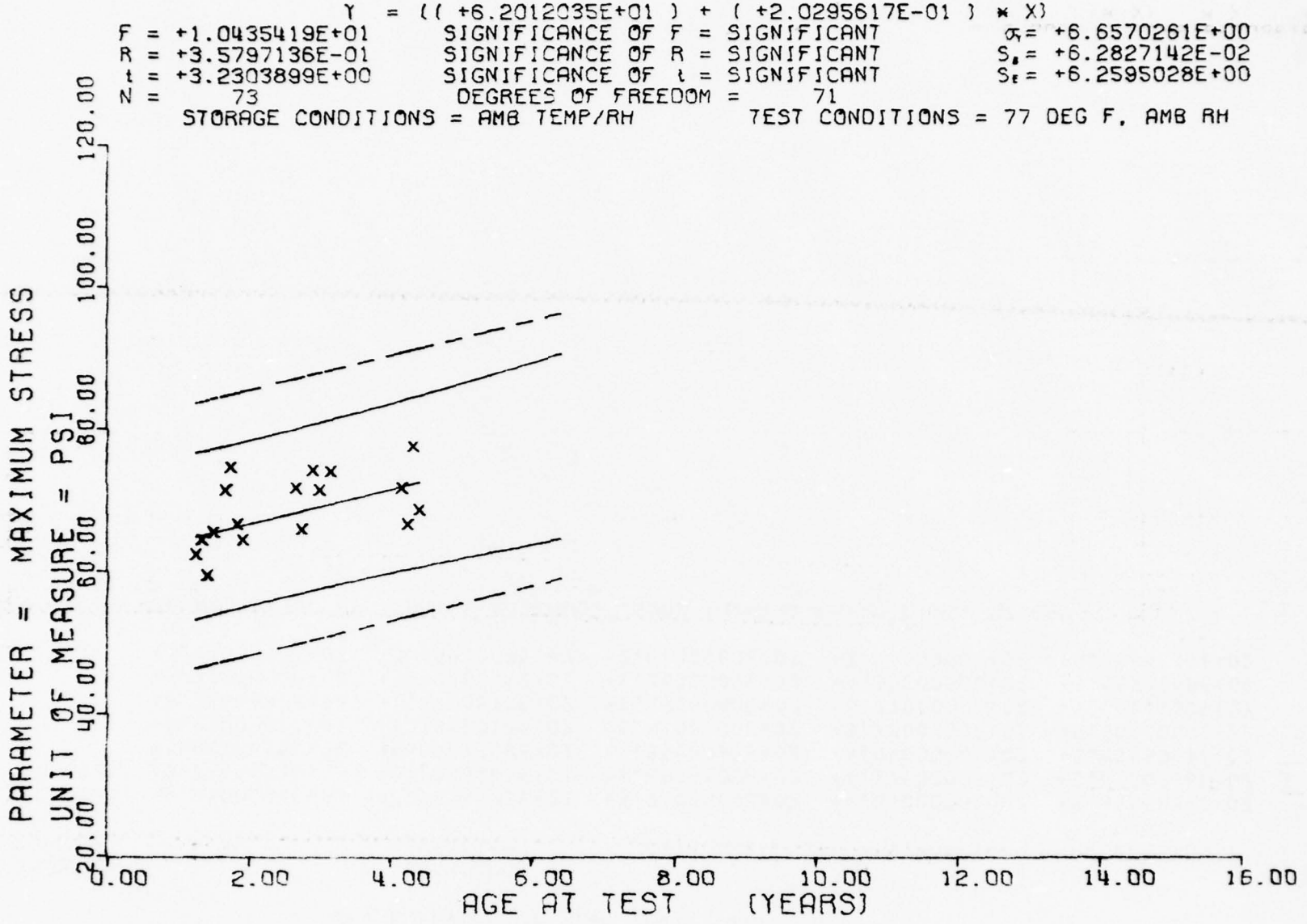
ANB 3066 PROPELLANT (ANB, P) TENSILE MODULUS, .0002 IN/MIN, UNLND CTNS, 77 DEG

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
122.0	3	+4.9500000E+02	+8.5854528E+01	+5.7600000E+02	+4.0500000E+02	+5.6185937E+02
123.0	9	+5.5244433E+02	+8.1083461E+01	+6.6900000E+02	+4.1700000E+02	+5.6150976E+02
124.0	6	+5.6416650E+02	+6.8927256E+01	+6.8500000E+02	+4.9400000E+02	+5.6115991E+02
126.0	6	+4.8300000E+02	+1.2959012E+02	+6.9200000E+02	+3.3800000E+02	+5.6046069E+02
127.0	3	+6.9866650E+02	+1.4910510E+02	+8.6500000E+02	+5.7700000E+02	+5.6011108E+02
131.0	8	+5.3875000E+02	+7.4926154E+01	+6.3600000E+02	+4.3800000E+02	+5.5871240E+02
132.0	1	+7.4400000E+02	+0.0000000E+87	+7.4400000E+02	+7.4400000E+02	+5.5836254E+02

ANB 3066 PROPELLANT (ANB, P) TENSILE MODULUS, .0002 IN/MIN, UNLND CTNS, 77 DEG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F = +1.0435419E+01 SIGNIFICANCE OF F = SIGNIFICANT σ = +6.6570261E+00
R = +3.5797136E-01 SIGNIFICANCE OF R = SIGNIFICANT S_a = +6.2827142E-02
t = +3.2303899E+00 SIGNIFICANCE OF t = SIGNIFICANT S_ε = +6.2595028E+00
N = 73 DEGREES OF FREEDOM = 71
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = MAXIMUM STRESS
UNIT OF MEASURE = PSI
120.00
100.00
80.00
60.00
40.00
20.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PRPLLNT (ANB P POLYMER) TENSILE SM, .0002 IN/MIN, 77 DEG, LINED CTNS

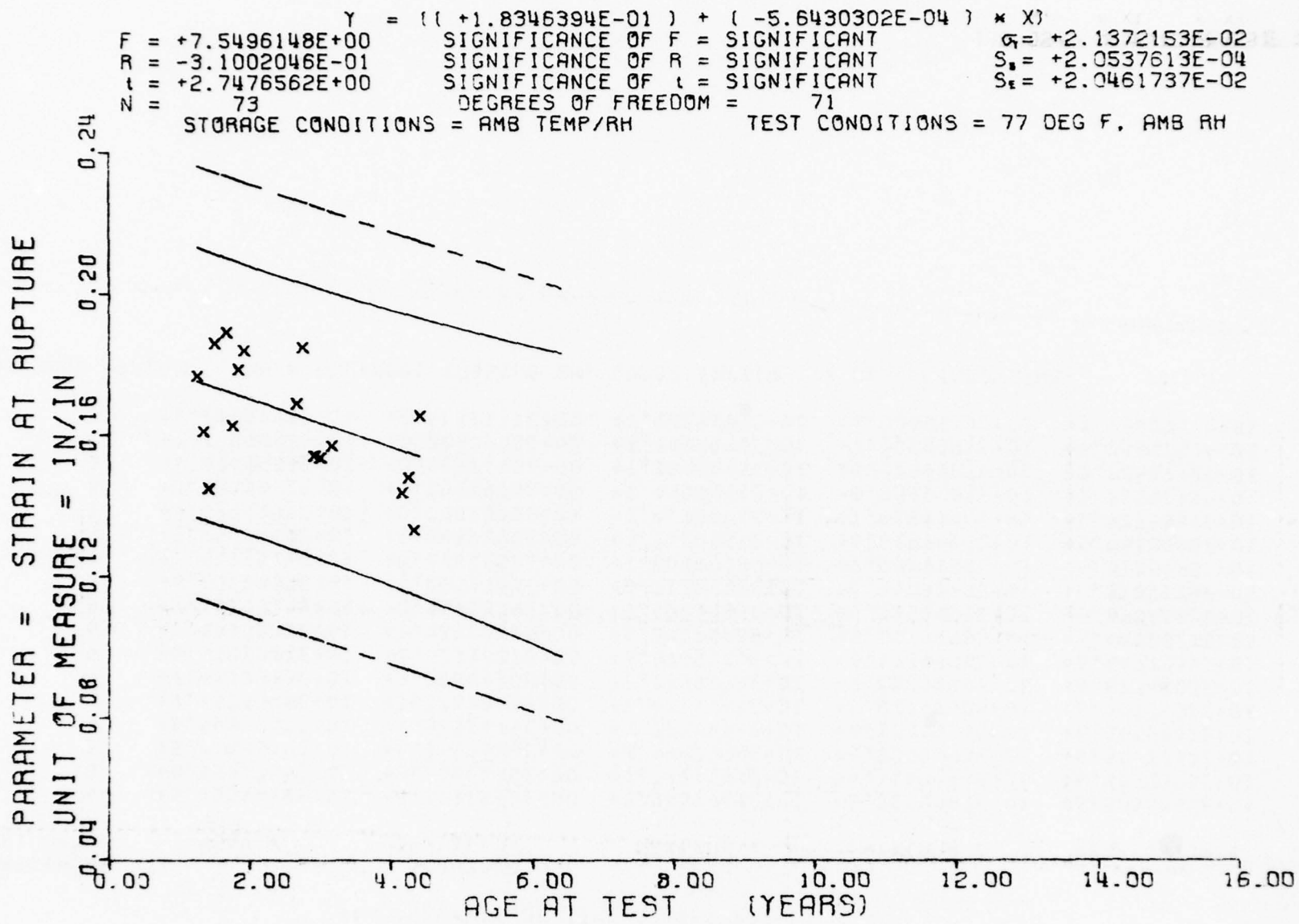
Figure 4-13

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	6	+6.2504913E+01	+8.3971558E+00	+7.0469985E+01	+5.3189987E+01	+6.5056365E+01
16.0	13	+6.4583755E+01	+9.5361138E+00	+7.7729995E+01	+4.4149993E+01	+6.5259323E+01
17.0	3	+5.9543319E+01	+6.3619688E+00	+6.4599990E+01	+5.2399993E+01	+6.5462280E+01
18.0	8	+6.5594909E+01	+4.3155674E+00	+7.2259994E+01	+6.1039993E+01	+6.5665237E+01
20.0	3	+7.1573318E+01	+3.2769863E+00	+7.4719985E+01	+6.8179992E+01	+6.6071151E+01
21.0	3	+7.4813323E+01	+2.7064430E+00	+7.7739990E+01	+7.2399993E+01	+6.6274108E+01
22.0	9	+5.6781021E+01	+2.5233637E+00	+6.9769989E+01	+6.1739990E+01	+6.6477065E+01
23.0	6	+5.4536621E+01	+1.9392512E+00	+6.6079985E+01	+6.1979995E+01	+6.6680023E+01
32.0	3	+7.1913314E+01	+2.3875279E+00	+7.4229995E+01	+6.9459991E+01	+6.8506622E+01
33.0	3	+6.6049987E+01	+1.4432753E+00	+6.7129989E+01	+6.4409988E+01	+6.8709579E+01
35.0	3	+7.4373321E+01	+3.7863253E+00	+7.8099990E+01	+7.0529998E+01	+6.9115493E+01
36.0	3	+7.1596649E+01	+4.8447194E+00	+7.7189987E+01	+6.8699996E+01	+6.9318450E+01
38.0	1	+7.4199996E+01	+0.0000000E+83	+7.4199996E+01	+7.4199996E+01	+6.9724365E+01
50.0	3	+7.1833312E+01	+3.2073970E+00	+7.4959991E+01	+6.8549987E+01	+7.2159835E+01
51.0	2	+6.6749984E+01	+9.8287130E+00	+7.3699995E+01	+5.9799987E+01	+7.2362792E+01
52.0	1	+7.7699996E+01	+0.0000000E+95	+7.7699996E+01	+7.7699996E+01	+7.2565750E+01
53.0	3	+6.8819992E+01	+2.6153377E+00	+7.1839996E+01	+6.7289993E+01	+7.2768707E+01

ANB 3066 PRPLLNT (ANB P POLYMER) TENSILE SM, .0002 IN/MIN, 77 DEG, LINED CTNS



ANB 3066 PROPLLNT (ANB P POLYMER) TENSILE ER, .0002 IN/MIN, 77 DEG, LINED CTNS

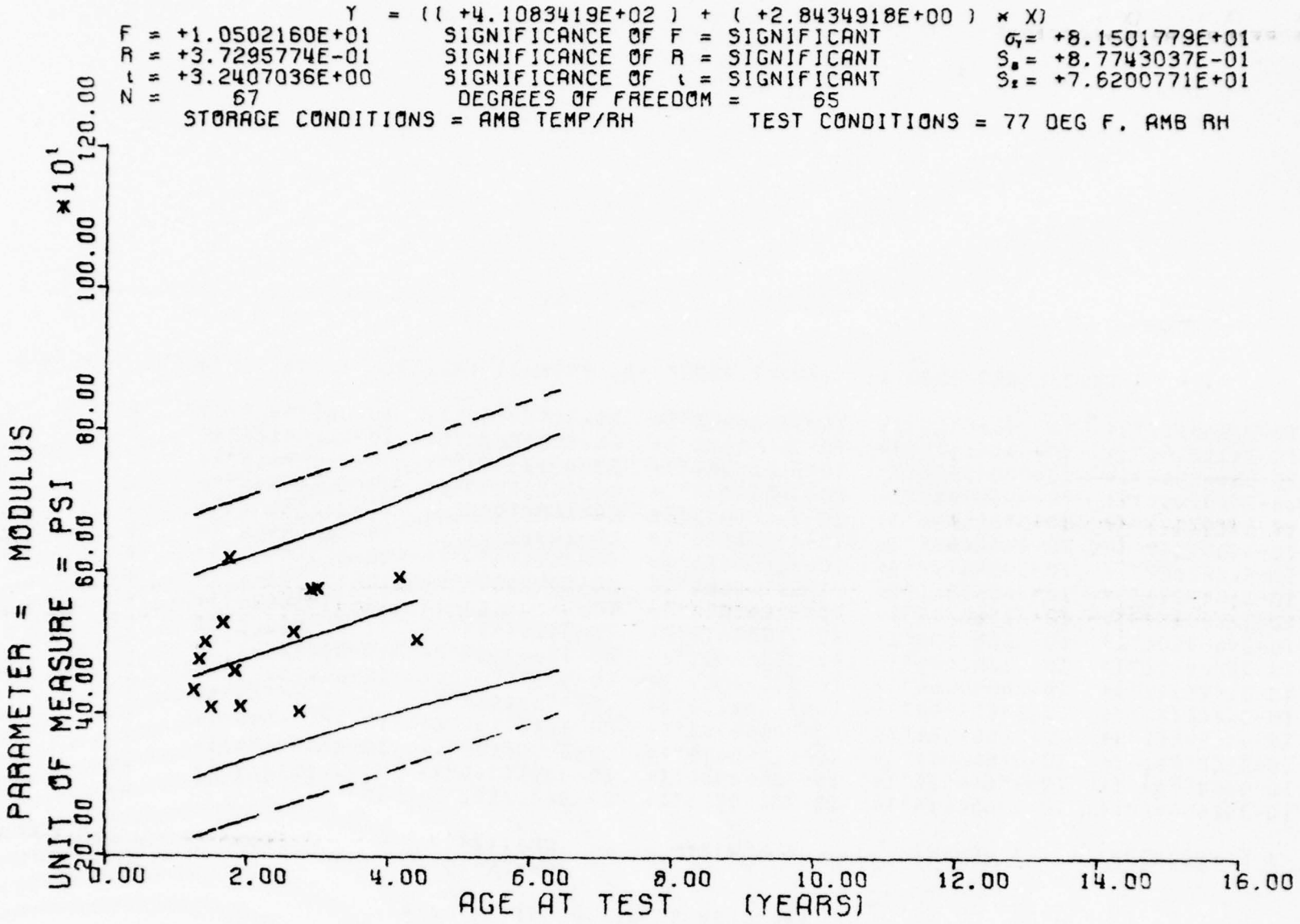
Figure 4-14

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	6	+1.7684984E-01	+2.2637529E-02	+1.9889998E-01	+1.4129996E-01	+1.7499935E-01
16.0	13	+1.6111510E-01	+1.6410564E-02	+1.8949997E-01	+1.3299995E-01	+1.7443507E-01
17.0	3	+1.4499992E-01	+3.6074584E-03	+1.4799994E-01	+1.4099997E-01	+1.7387074E-01
18.0	8	+1.8603730E-01	+2.5432315E-02	+2.1869999E-01	+1.4639997E-01	+1.7330645E-01
20.0	3	+1.8906664E-01	+4.0950605E-03	+1.9379997E-01	+1.8669998E-01	+1.7217785E-01
21.0	3	+1.6266661E-01	+4.7035117E-03	+1.6799998E-01	+1.5909999E-01	+1.7161357E-01
22.0	9	+1.7862200E-01	+2.0851495E-02	+2.1099996E-01	+1.4999997E-01	+1.7104923E-01
23.0	6	+1.8398314E-01	+1.4443911E-02	+2.0199995E-01	+1.7009997E-01	+1.7048496E-01
32.0	3	+1.6889995E-01	+1.0352676E-03	+1.7009997E-01	+1.6829997E-01	+1.6540622E-01
33.0	3	+1.8479996E-01	+6.5086464E-03	+1.8899995E-01	+1.7729997E-01	+1.6484189E-01
35.0	3	+1.5406662E-01	+2.4149953E-02	+1.6889995E-01	+1.2619996E-01	+1.6371333E-01
36.0	3	+1.5359997E-01	+1.2928842E-02	+1.6359995E-01	+1.3899999E-01	+1.6314899E-01
38.0	1	+1.5699994E-01	+0.0000000E+83	+1.5699994E-01	+1.5699994E-01	+1.6202038E-01
50.0	3	+1.4369994E-01	+8.6483720E-03	+1.5299999E-01	+1.3589996E-01	+1.5524876E-01
51.0	2	+1.4799994E-01	+1.1314241E-02	+1.5599995E-01	+1.3999998E-01	+1.5468448E-01
52.0	1	+1.3299995E-01	+0.0000000E+95	+1.3299995E-01	+1.3299995E-01	+1.5412014E-01
53.0	3	+1.6529995E-01	+1.5627560E-02	+1.8449997E-01	+1.5569996E-01	+1.5355587E-01

ANB 3066 PROPELLNT (ANB P POLYMER) TENSILE ER, .0002 IN/MIN, 77 DEG, LINED CTNS



ANB 3066 PROPLLNT (ANB P POLYMER) TENSILE MODULUS, .0002 IN/MIN, 77 DEG, LINED

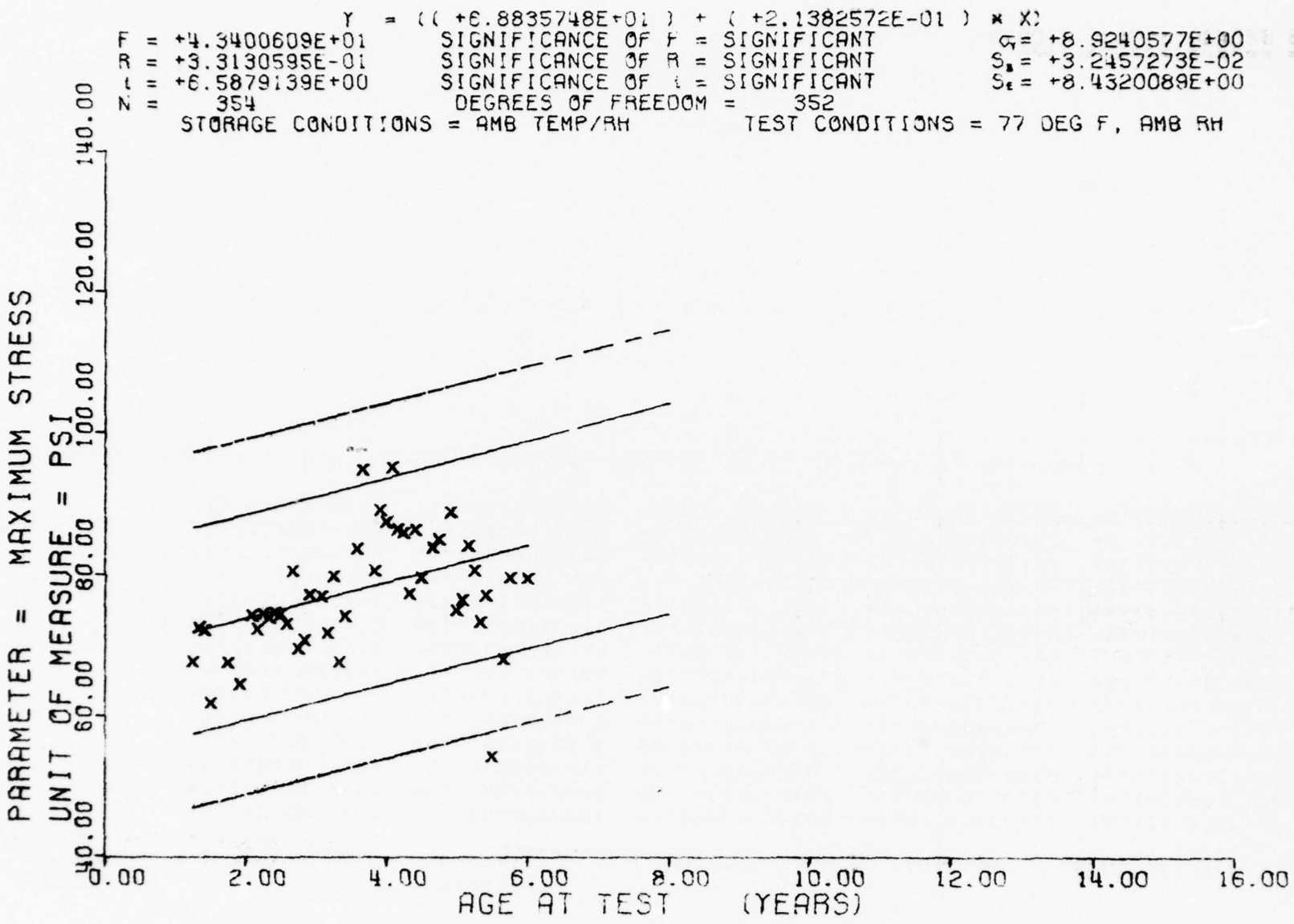
Figure 4-15

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	6	+4.3400000E+02	+1.3856406E+01	+4.5900000E+02	+4.2300000E+02	+4.5348632E+02
16.0	13	+4.7753833E+02	+6.4133474E+01	+5.7600000E+02	+3.6600000E+02	+4.5632983E+02
17.0	1	+5.0200000E+02	+0.0000000E+11	+5.0200000E+02	+5.0200000E+02	+4.5917333E+02
18.0	8	+4.0962500E+02	+7.2194058E+01	+5.3900000E+02	+3.5700000E+02	+4.6201684E+02
20.0	3	+5.2900000E+02	+1.1093691E+02	+6.5500000E+02	+4.4600000E+02	+4.6770385E+02
21.0	3	+6.2033325E+02	+1.2503332E+01	+6.2900000E+02	+6.0600000E+02	+4.7054736E+02
22.0	9	+4.6077758E+02	+7.1257943E+01	+5.4500000E+02	+3.7200000E+02	+4.7339086E+02
23.0	6	+4.1150000E+02	+3.8114301E+01	+4.5500000E+02	+3.6200000E+02	+4.7623437E+02
32.0	3	+5.1666650E+02	+1.2503332E+01	+5.3100000E+02	+5.0800000E+02	+5.0182592E+02
33.0	3	+4.0433325E+02	+2.1501937E+01	+4.2600000E+02	+3.8300000E+02	+5.0466918E+02
35.0	3	+5.7600000E+02	+5.8949130E+01	+6.4100000E+02	+5.2600000E+02	+5.1035620E+02
36.0	3	+5.7733325E+02	+1.3576941E+01	+5.9300000E+02	+5.6900000E+02	+5.1319970E+02
50.0	3	+5.9333325E+02	+1.2662279E+01	+6.0700000E+02	+5.8200000E+02	+5.5300854E+02
53.0	3	+5.0566650E+02	+2.7300793E+01	+5.3700000E+02	+4.8700000E+02	+5.6153906E+02

ANB 3266 PROPELLNT (ANB P POLYMER) TENSILE MODULUS, .0002 IN/MIN, 77 DEG, LINED



ANB 3066 PROPELLANT(ANT), TENSILE MAX STRESS, .0002 IN/MIN, 77 DEG F, UNLND CTN

Figure 4-16

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	1	+6.7769989E+01	+0.0000000E+91	+6.7769989E+01	+6.7769989E+01	+7.2043121E+01
16.0	3	+7.2583328E+01	+3.0117717E+00	+7.4729995E+01	+6.9139999E+01	+7.2256958E+01
17.0	2	+7.2274978E+01	+4.3344715E-01	+7.2579986E+01	+7.1969985E+01	+7.2470779E+01
18.0	3	+6.1903320E+01	+1.2210218E+00	+6.3149993E+01	+6.0709991E+01	+7.2684600E+01
21.0	3	+6.7683319E+01	+6.6820902E-01	+6.8389999E+01	+6.7059997E+01	+7.3326080E+01
23.0	3	+6.4526657E+01	+4.3857368E-01	+6.4819992E+01	+6.4019989E+01	+7.3753738E+01
25.0	3	+7.4303314E+01	+3.9951819E+00	+7.8269989E+01	+7.0279998E+01	+7.4181381E+01
26.0	17	+7.2357543E+01	+5.7413876E+00	+8.0069992E+01	+6.5000000E+01	+7.4395202E+01
27.0	33	+7.4548370E+01	+5.7867139E+00	+8.1949996E+01	+6.3299987E+01	+7.4609039E+01
28.0	22	+7.3977615E+01	+6.1309863E+00	+8.5859985E+01	+6.5500000E+01	+7.4822860E+01
29.0	8	+7.4696197E+01	+5.3649253E+00	+8.1269989E+01	+6.7599990E+01	+7.5036682E+01
30.0	15	+7.4493911E+01	+7.5192226E+00	+8.0509994E+01	+5.5199996E+01	+7.5250518E+01
31.0	30	+7.3151565E+01	+6.8952917E+00	+8.2489990E+01	+5.7439987E+01	+7.5464340E+01
32.0	22	+8.0585815E+01	+5.7894803E+00	+9.6339996E+01	+6.8179992E+01	+7.5678161E+01
33.0	5	+6.9619918E+01	+2.3188451E+00	+7.2949996E+01	+6.7529998E+01	+7.5891983E+01
34.0	15	+7.0813873E+01	+7.8084026E+00	+7.9099990E+01	+5.2289993E+01	+7.6105819E+01
35.0	11	+7.7273559E+01	+7.2439494E+00	+9.7429992E+01	+7.0509994E+01	+7.6319641E+01
37.0	4	+7.7067443E+01	+9.8086986E+00	+9.1750000E+01	+7.1459991E+01	+7.6747299E+01
38.0	3	+7.1873321E+01	+2.9982869E+00	+7.3819992E+01	+6.8419998E+01	+7.6961120E+01
39.0	3	+7.9903320E+01	+1.9501588E+00	+8.1869995E+01	+7.7969985E+01	+7.7174942E+01
40.0	1	+6.7679992E+01	+0.0000000E+71	+6.7679992E+01	+6.7679992E+01	+7.7388763E+01
41.0	8	+7.4188690E+01	+1.8000392E+00	+7.6119995E+01	+7.1389999E+01	+7.7602600E+01
43.0	3	+8.3709991E+01	+9.6265207E-01	+8.4479995E+01	+8.2629989E+01	+7.8030242E+01
44.0	4	+9.4834899E+01	+5.7951087E+00	+1.0035998E+02	+8.9579996E+01	+7.8244079E+01
46.0	6	+8.0673248E+01	+1.3399882E+01	+9.3619995E+01	+6.7479995E+01	+7.8671722E+01
47.0	10	+8.9199890E+01	+8.4874856E+00	+9.8439987E+01	+7.6109985E+01	+7.8885543E+01
48.0	6	+8.7496612E+01	+1.2865879E+00	+8.9209991E+01	+8.6109985E+01	+7.9099380E+01
49.0	5	+9.5171920E+01	+3.0029755E+00	+9.8389999E+01	+9.1119995E+01	+7.9313201E+01
50.0	9	+8.6408767E+01	+3.7515141E+00	+9.1709991E+01	+8.1459991E+01	+7.9527023E+01
51.0	3	+8.5966629E+01	+1.2268520E+00	+8.6899993E+01	+8.4579986E+01	+7.9740859E+01
52.0	3	+7.7333328E+01	+8.0193958E-01	+7.8259994E+01	+7.6869995E+01	+7.9954681E+01

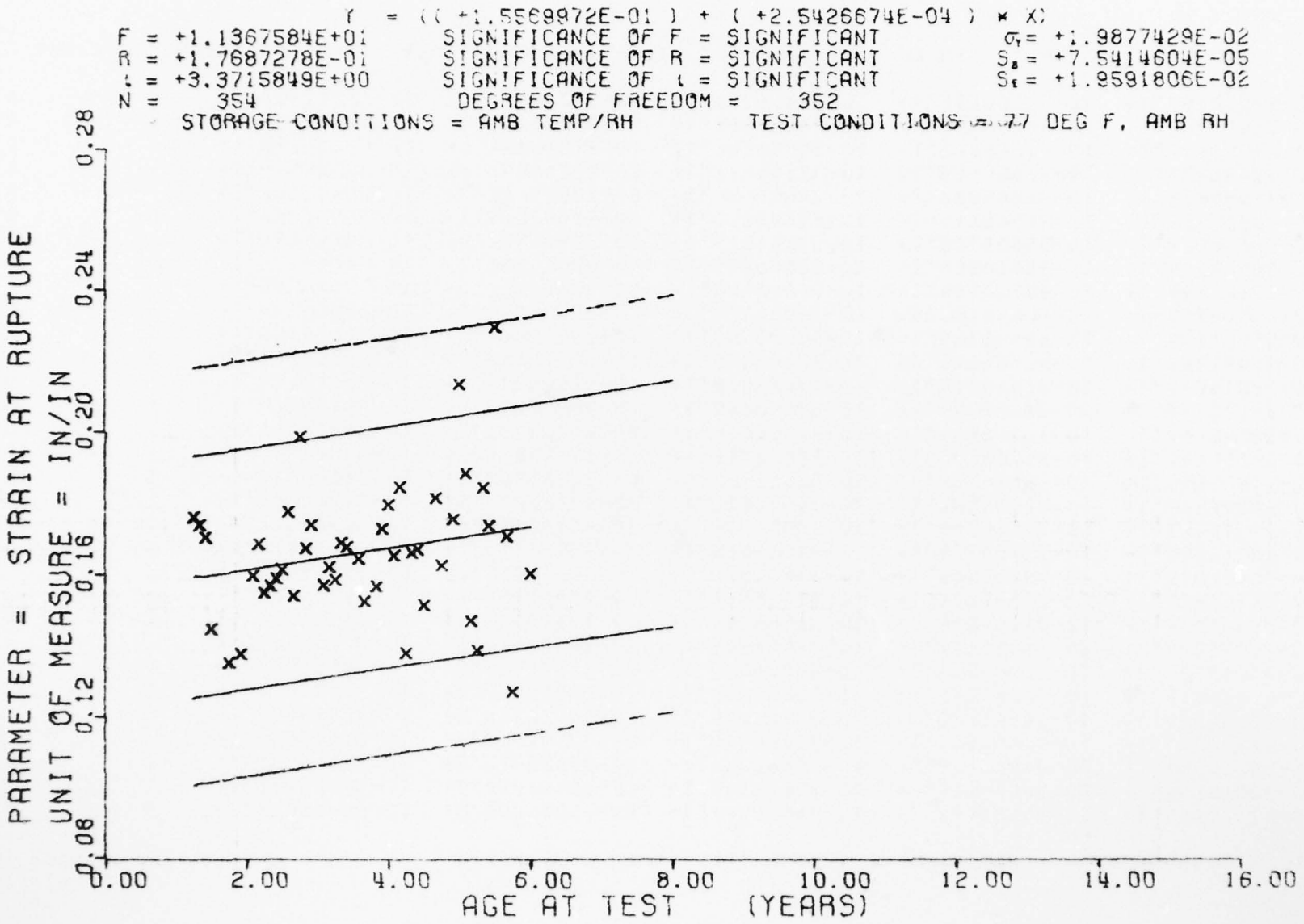
ANB 3066 PROPELLANT(ANT), TENSILE MAX STRESS, .0002 IN/MIN, 77 DEG F, UNLND CTN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
53.0	17	+8.6404006E+01	+5.1156223E+00	+9.3879989E+01	+7.7439987E+01	+8.0168502E+01
54.0	10	+7.9613861E+01	+1.0756948E+01	+9.3259994E+01	+6.5099990E+01	+8.0382324E+01
56.0	9	+8.3862136E+01	+8.1244655E+00	+9.3259994E+01	+6.9469985E+01	+8.0809982E+01
57.0	9	+8.5069931E+01	+6.7172048E+00	+9.3500000E+01	+7.6199996E+01	+8.1023803E+01
59.0	3	+8.8853271E+01	+1.7234824E+00	+9.0209991E+01	+8.6919998E+01	+8.1451461E+01
60.0	3	+7.5003326E+01	+1.0850442E+00	+7.6189987E+01	+7.4059997E+01	+8.1665283E+01
61.0	3	+7.6446655E+01	+6.3034595E-01	+7.7149993E+01	+7.5929992E+01	+8.1879104E+01
62.0	6	+8.4169921E+01	+2.8139788E+00	+8.8819992E+01	+8.1449996E+01	+8.2092941E+01
63.0	3	+8.0643325E+01	+9.9733463E-01	+8.1589996E+01	+7.9599990E+01	+8.2306762E+01
64.0	3	+7.3394363E+01	+6.7698787E+00	+7.9089996E+01	+6.1309997E+01	+8.2520584E+01
65.0	3	+7.7166656E+01	+7.4381503E-01	+7.8019989E+01	+7.6639999E+01	+8.2734405E+01
66.0	3	+5.4293319E+01	+7.5050824E-01	+5.5159988E+01	+5.3849990E+01	+8.2948242E+01
68.0	6	+6.8123291E+01	+4.4326251E+00	+7.3139999E+01	+6.0459991E+01	+8.3375885E+01
69.0	3	+7.9593322E+01	+1.2389050E+00	+8.0429992E+01	+7.8169998E+01	+8.3589721E+01
72.0	3	+7.9486648E+01	+2.0453798E+00	+8.1079986E+01	+7.7179992E+01	+8.4231185E+01

ANB 3066 PROPELLANT(ANT), TENSILE MAX STRESS, .0002 IN/MIN, 77 DEG F, UNLND CTN



ANB 3066 PROPELLANT(ANT), TENSILE STN AT RUPT, .0002 IN/MIN, 77 DEG F, UNLND CT

Figure 4-17

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	1	+1.7639994E-01	+0.0000000E+91	+1.7639994E-01	+1.7639994E-01	+1.5951371E-01
16.0	3	+1.7419993E-01	+8.8459368E-03	+1.8419998E-01	+1.6739994E-01	+1.5976798E-01
17.0	2	+1.7069995E-01	+2.1281275E-03	+1.7219996E-01	+1.6919994E-01	+1.6002225E-01
18.0	3	+1.4506661E-01	+1.9088460E-02	+1.6639995E-01	+1.2959998E-01	+1.6027647E-01
21.0	3	+1.3546663E-01	+2.8113705E-03	+1.3839995E-01	+1.3279998E-01	+1.6103929E-01
23.0	3	+1.3786661E-01	+3.2349407E-03	+1.4079999E-01	+1.3439995E-01	+1.6154783E-01
25.0	3	+1.5999996E-01	+8.4273241E-03	+1.6799998E-01	+1.5119999E-01	+1.6205638E-01
26.0	17	+1.6892910E-01	+1.1318348E-02	+1.8319994E-01	+1.3799995E-01	+1.6231060E-01
27.0	33	+1.5507841E-01	+1.1200248E-02	+1.7439997E-01	+1.3199996E-01	+1.6256487E-01
28.0	22	+1.5709960E-01	+7.6840243E-03	+1.7799997E-01	+1.4039999E-01	+1.6281914E-01
29.0	8	+1.5924990E-01	+7.3804571E-03	+1.7399996E-01	+1.5039998E-01	+1.6307342E-01
30.0	15	+1.6165298E-01	+1.4151503E-02	+1.8799996E-01	+1.4559996E-01	+1.6332769E-01
31.0	30	+1.7796283E-01	+2.2530510E-02	+2.3449999E-01	+1.4479994E-01	+1.6358196E-01
32.0	22	+1.5429961E-01	+1.1200986E-02	+1.7279994E-01	+1.3079994E-01	+1.6383624E-01
33.0	5	+1.9893997E-01	+8.6961213E-03	+2.0959997E-01	+1.8569999E-01	+1.6409051E-01
34.0	15	+1.6763287E-01	+2.3727652E-02	+1.9769996E-01	+1.1679995E-01	+1.6434478E-01
35.0	11	+1.7419064E-01	+1.4404093E-02	+1.9559997E-01	+1.4639997E-01	+1.6459900E-01
37.0	4	+1.5734994E-01	+8.1139909E-03	+1.6679996E-01	+1.4699995E-01	+1.6510754E-01
38.0	3	+1.6239994E-01	+7.7140833E-03	+1.6799998E-01	+1.5359997E-01	+1.6536182E-01
39.0	3	+1.5879994E-01	+4.8498249E-03	+1.6319996E-01	+1.5359997E-01	+1.6561609E-01
40.0	1	+1.6919994E-01	+0.0000000E+71	+1.6919994E-01	+1.6919994E-01	+1.6587036E-01
41.0	8	+1.6814994E-01	+1.2580298E-02	+1.8719995E-01	+1.5119999E-01	+1.6612464E-01
43.0	3	+1.6479992E-01	+4.9952952E-03	+1.6879999E-01	+1.5919995E-01	+1.6663318E-01
44.0	4	+1.5269994E-01	+1.0420758E-02	+1.6259998E-01	+1.4339995E-01	+1.6688740E-01
46.0	6	+1.5693330E-01	+6.3065560E-03	+1.6799998E-01	+1.5119999E-01	+1.6739594E-01
47.0	10	+1.7309969E-01	+1.3812203E-02	+1.9079995E-01	+1.5479999E-01	+1.6765022E-01
48.0	6	+1.7991650E-01	+6.7499202E-03	+1.9099998E-01	+1.7299997E-01	+1.6790449E-01
49.0	5	+1.6563993E-01	+9.9680939E-03	+1.7839998E-01	+1.5359997E-01	+1.6815876E-01
50.0	2	+1.8478870E-01	+6.1775400E-03	+1.9839996E-01	+1.7699998E-01	+1.6841304E-01
51.0	3	+1.3816660E-01	+1.9619874E-03	+1.3999998E-01	+1.3609999E-01	+1.6866731E-01
52.0	3	+1.6643327E-01	+6.7678624E-03	+1.7419999E-01	+1.6179996E-01	+1.6892158E-01

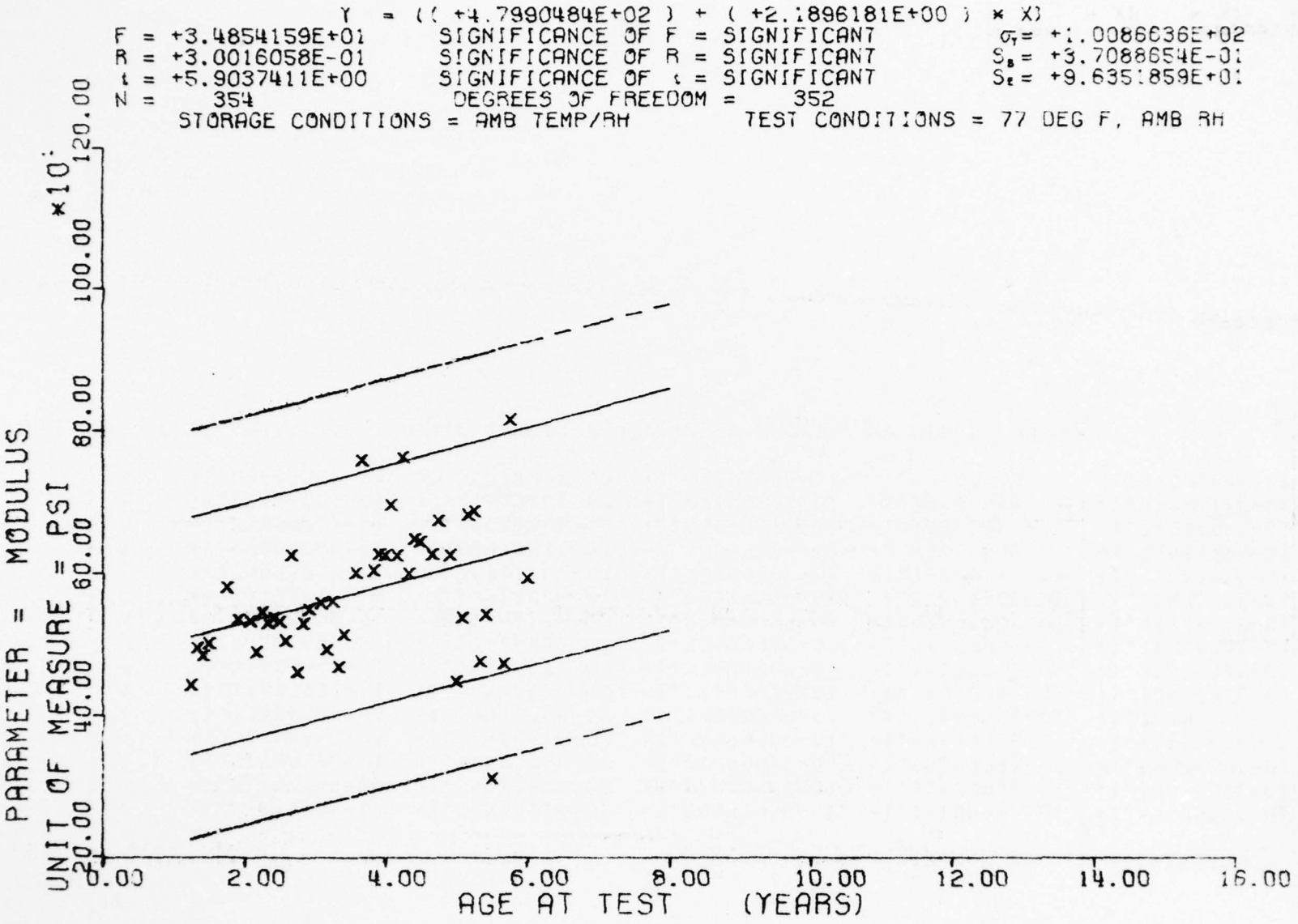
ANB 3066 PROPELLANT(ANT), TENSILE STN AT RUPT, .0002 IN/MIN, 77 DEG F, UNLND CT

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
53.0	17	+1.6729372E-01	+1.9295611E-02	+2.0059996E-01	+1.3219994E-01	+1.6917580E-01
54.0	10	+1.5171974E-01	+1.6901789E-02	+1.8239998E-01	+1.3069999E-01	+1.6943007E-01
56.0	9	+1.8178862E-01	+1.5980404E-02	+2.0089995E-01	+1.5229994E-01	+1.6993862E-01
57.0	9	+1.6276645E-01	+6.5242667E-03	+1.7069995E-01	+1.5319997E-01	+1.7019289E-01
59.0	3	+1.7586660E-01	+1.1997678E-02	+1.8909996E-01	+1.6569995E-01	+1.7070144E-01
60.0	3	+2.1369993E-01	+6.2859281E-03	+2.1929997E-01	+2.0689994E-01	+1.7095571E-01
61.0	3	+1.8866664E-01	+4.3153917E-03	+1.9349998E-01	+1.8519997E-01	+1.7120999E-01
62.0	6	+1.4736664E-01	+5.0796546E-03	+1.5269994E-01	+1.3809996E-01	+1.7146420E-01
63.0	3	+1.3903325E-01	+3.5139618E-03	+1.4269995E-01	+1.3569998E-01	+1.7171847E-01
64.0	9	+1.8473291E-01	+3.4192100E-02	+2.1839994E-01	+1.3769996E-01	+1.7197275E-01
65.0	3	+1.7403328E-01	+2.3050738E-03	+1.7669999E-01	+1.7269998E-01	+1.7222702E-01
66.0	3	+2.2969996E-01	+3.6037357E-03	+2.3369997E-01	+2.2669994E-01	+1.7248129E-01
68.0	6	+1.7103320E-01	+1.5501169E-02	+1.8669998E-01	+1.4469999E-01	+1.7298984E-01
69.0	3	+1.2736660E-01	+3.2168360E-03	+1.2969994E-01	+1.2369996E-01	+1.7324411E-01
72.0	3	+1.6069996E-01	+3.0022788E-03	+1.6369998E-01	+1.5769994E-01	+1.7400687E-01

ANB 3066 PROPELLANT(ANT), TENSILE STN AT RUPT, .0002 IN/MIN, 77 DEG F, UNLND CT



ANB 3066 PROPELLANT(ANT), TENSILE MODULUS, 0.0002 IN/MIN, 77 DEG F, UNLND CTN

Figure 4-18

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	1	+4.4400000E+02	+0.0000000E+91	+4.4400000E+02	+4.4400000E+02	+5.1274902E+02
16.0	3	+4.9600000E+02	+2.6057628E+01	+5.2600000E+02	+4.7900000E+02	+5.1493872E+02
17.0	2	+4.8550000E+02	+1.3435028E+01	+4.9500000E+02	+4.7600000E+02	+5.1712817E+02
18.0	3	+5.0233325E+02	+5.0292477E+01	+5.3900000E+02	+4.4500000E+02	+5.1931787E+02
21.0	3	+5.8133325E+02	+1.3650396E+01	+5.9700000E+02	+5.7200000E+02	+5.2588671E+02
23.0	3	+5.3666650E+02	+3.1021497E+01	+5.6700000E+02	+5.0500000E+02	+5.3026586E+02
25.0	3	+5.3400000E+02	+5.2373657E+01	+5.9300000E+02	+4.9300000E+02	+5.3464526E+02
26.0	17	+4.9011743E+02	+7.2367881E+01	+6.5200000E+02	+4.0800000E+02	+5.3683471E+02
27.0	33	+5.4575756E+02	+7.9142683E+01	+6.6000000E+02	+4.0300000E+02	+5.3902441E+02
28.0	22	+5.3109082E+02	+7.5481886E+01	+6.8600000E+02	+3.9200000E+02	+5.4121411E+02
29.0	8	+5.3850000E+02	+5.6089214E+01	+5.9700000E+02	+4.4500000E+02	+5.4340356E+02
30.0	15	+5.3353320E+02	+9.0406120E+01	+6.4100000E+02	+3.8100000E+02	+5.4559326E+02
31.0	30	+5.0579980E+02	+5.2074482E+01	+6.2200000E+02	+3.8200000E+02	+5.4778295E+02
32.0	22	+6.2627270E+02	+6.5824573E+01	+8.2200000E+02	+5.3800000E+02	+5.4997241E+02
33.0	5	+4.6219995E+02	+2.8490349E+01	+4.9800000E+02	+4.3300000E+02	+5.5216210E+02
34.0	15	+5.3053320E+02	+7.7927499E+01	+6.8000000E+02	+4.4400000E+02	+5.5435180E+02
35.0	11	+5.5000000E+02	+9.3614101E+01	+7.8200000E+02	+4.4000000E+02	+5.5654125E+02
37.0	4	+5.5925000E+02	+1.3119546E+02	+7.5500000E+02	+4.7700000E+02	+5.6092065E+02
38.0	3	+4.9333325E+02	+1.3316656E+01	+5.0800000E+02	+4.8200000E+02	+5.6311010E+02
39.0	3	+5.6166650E+02	+3.0664855E+01	+5.9700000E+02	+5.4200000E+02	+5.6529980E+02
40.0	1	+4.6900000E+02	+0.0000000E+71	+4.6900000E+02	+4.6900000E+02	+5.6748950E+02
41.0	8	+5.1500000E+02	+3.2000000E+01	+5.6200000E+02	+4.7900000E+02	+5.6967895E+02
43.0	3	+6.0166650E+02	+2.2479620E+01	+6.2100000E+02	+5.7700000E+02	+5.7405834E+02
44.0	4	+7.5975000E+02	+1.3879811E+02	+9.2800000E+02	+6.3900000E+02	+5.7624804E+02
46.0	6	+6.0433325E+02	+1.3954019E+02	+7.4700000E+02	+4.4200000E+02	+5.8062719E+02
47.0	10	+6.2759985E+02	+1.0916368E+02	+7.5300000E+02	+4.6500000E+02	+5.8281689E+02
48.0	6	+6.2616650E+02	+4.2976350E+01	+6.9600000E+02	+5.8100000E+02	+5.8500634E+02
49.0	5	+6.9700000E+02	+5.7480431E+01	+7.7000000E+02	+6.3900000E+02	+5.8719604E+02
50.0	9	+6.2577758E+02	+5.0751299E+01	+6.9700000E+02	+5.4300000E+02	+5.8938574E+02
51.0	3	+7.6366650E+02	+5.5075705E+00	+7.6900000E+02	+7.5800000E+02	+5.9157519E+02
52.0	3	+6.0066650E+02	+9.7125348E+00	+6.0900000E+02	+5.9000000E+02	+5.9376489E+02

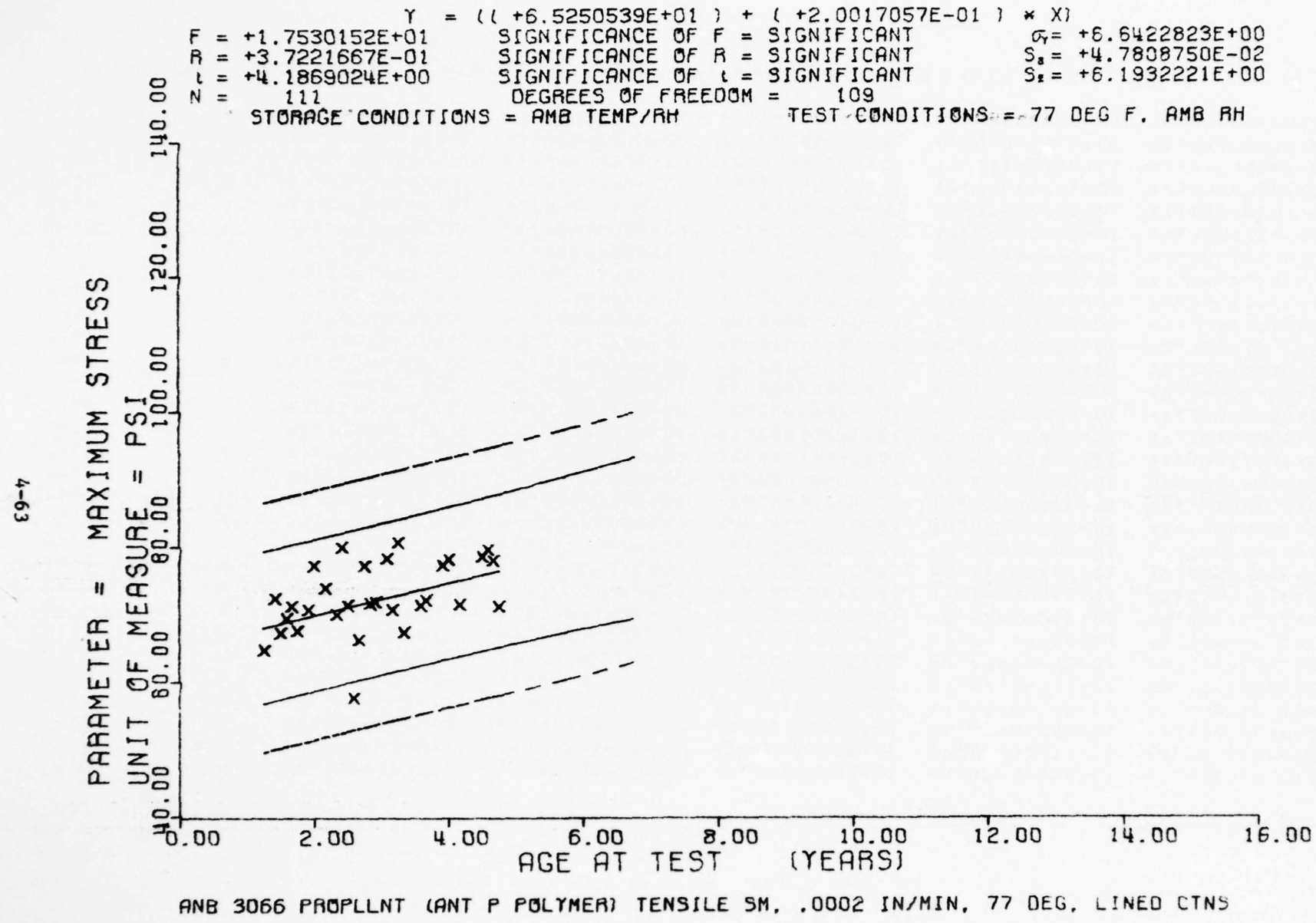
ANB 3066 PROPELLANT(ANT), TENSILE MODULUS, 0.0002 IN/MIN, 77 DEG F, UNLND CTN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
53.0	17	+6.4911743E+02	+9.6211929E+01	+7.9300000E+02	+5.0900000E+02	+5.9595458E+02
54.0	10	+6.4529980E+02	+8.1006241E+01	+7.7000000E+02	+5.5200000E+02	+5.9814404E+02
56.0	9	+6.2766650E+02	+8.5290679E+01	+7.6600000E+02	+5.2700000E+02	+6.0252343E+02
57.0	9	+6.7500000E+02	+6.1777827E+01	+7.6000000E+02	+5.9500000E+02	+6.0471289E+02
59.0	3	+6.2633325E+02	+2.1962088E+01	+6.4000000E+02	+6.0100000E+02	+6.0909228E+02
60.0	3	+4.4900000E+02	+8.1853527E+00	+4.5600000E+02	+4.4000000E+02	+6.1128173E+02
61.0	3	+5.3833325E+02	+1.2342339E+01	+5.5200000E+02	+5.2800000E+02	+6.1347143E+02
62.0	6	+6.8283325E+02	+5.1191470E+01	+7.3600000E+02	+6.3100000E+02	+6.1566113E+02
63.0	3	+6.8833325E+02	+1.4364307E+01	+6.9900000E+02	+6.7200000E+02	+6.1785058E+02
64.0	9	+4.7744433E+02	+3.2023862E+01	+5.1300000E+02	+4.2400000E+02	+6.2004028E+02
65.0	3	+5.4333325E+02	+1.1015141E+01	+5.5400000E+02	+5.3200000E+02	+6.2222998E+02
66.0	3	+3.1200000E+02	+3.6055512E+00	+3.1600000E+02	+3.0900000E+02	+6.2441943E+02
68.0	6	+4.7383325E+02	+1.9250108E+01	+4.9100000E+02	+4.3800000E+02	+6.2879882E+02
69.0	3	+8.1600000E+02	+1.6643316E+01	+8.2800000E+02	+7.9700000E+02	+6.3098828E+02
72.0	3	+5.9433325E+02	+1.3503086E+01	+6.0800000E+02	+5.8100000E+02	+6.3755712E+02

ANB 3066 PROPELLANT(ANT), TENSILE MODULUS, 0.0002 IN/MIN, 77 DEG F, UNLND CTN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F = +1.7530152E+01 SIGNIFICANCE OF F = SIGNIFICANT σY = +6.6422823E+00
R = +3.7221667E-01 SIGNIFICANCE OF R = SIGNIFICANT Sa = +4.7808750E-02
t = +4.1869024E+00 SIGNIFICANCE OF t = SIGNIFICANT Sz = +6.1932221E+00
N = 111 DEGREES OF FREEDOM = 109
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = MAXIMUM STRESS
UNIT OF MEASURE = PSI
140.00
120.00
100.00
80.00
60.00
40.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPLLNT (ANT P POLYMER) TENSILE SM, .0002 IN/MIN, 77 DEG, LINED CTNS

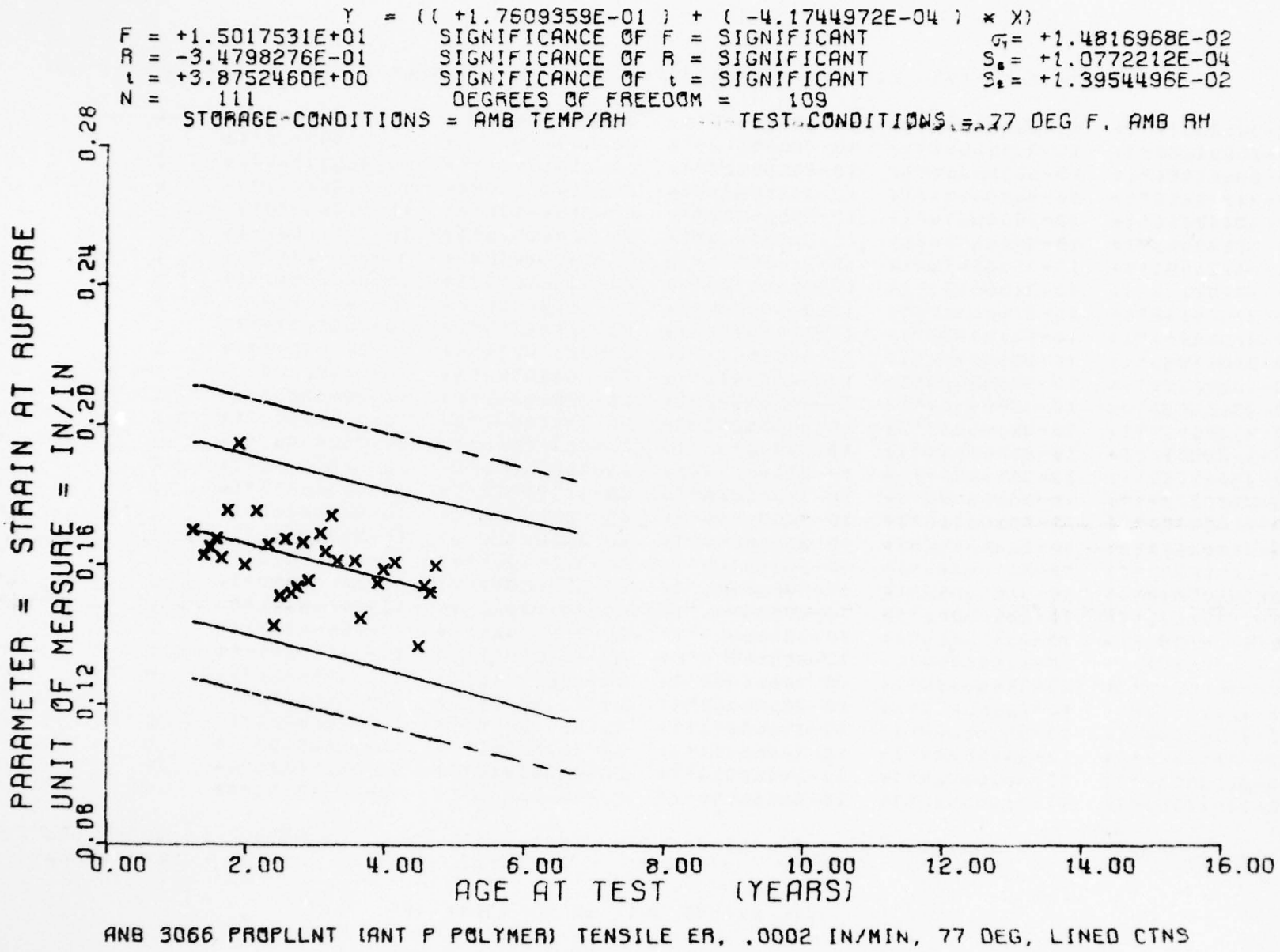
Figure 4-19

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	6	+6.4859985E+01	+5.4030527E+00	+7.0529998E+01	+5.6229995E+01	+6.8253097E+01
17.0	3	+7.2546646E+01	+1.5121149E+00	+7.4269989E+01	+7.1439987E+01	+6.8653427E+01
18.0	6	+6.7396606E+01	+2.4632085E+00	+7.0139999E+01	+6.2959991E+01	+6.8853607E+01
19.0	3	+6.9566650E+01	+1.2812037E+00	+7.0619995E+01	+6.8139999E+01	+6.9053771E+01
20.0	3	+7.1366653E+01	+1.6946830E+00	+7.3319992E+01	+7.0289993E+01	+6.9253936E+01
21.0	6	+6.7696609E+01	+6.6774821E+00	+7.4929992E+01	+5.8709991E+01	+6.9454116E+01
23.0	3	+7.0863327E+01	+7.6119503E-01	+7.1659988E+01	+7.0139999E+01	+6.9854461E+01
24.0	3	+7.7356643E+01	+1.2399162E+00	+7.8359985E+01	+7.5969985E+01	+7.0054626E+01
26.0	3	+7.4033325E+01	+1.9071576E+00	+7.5299987E+01	+7.1839996E+01	+7.0454971E+01
28.0	3	+7.0126647E+01	+1.5080501E+00	+7.1689987E+01	+6.8679992E+01	+7.0855300E+01
29.0	3	+8.0103317E+01	+1.8411269E+00	+8.2219985E+01	+7.8869995E+01	+7.1055480E+01
30.0	6	+7.1486602E+01	+9.1663089E+00	+8.3819992E+01	+6.2239990E+01	+7.1255645E+01
31.0	3	+5.7733322E+01	+2.0791314E+01	+7.0449996E+01	+3.3739990E+01	+7.1455825E+01
32.0	3	+6.6363327E+01	+1.7331658E+00	+6.8289993E+01	+6.4929992E+01	+7.1655990E+01
33.0	3	+7.7373321E+01	+1.7183952E+00	+7.8759994E+01	+7.5449996E+01	+7.1856155E+01
34.0	3	+7.1786651E+01	+9.9662111E-01	+7.2559997E+01	+7.0659988E+01	+7.2056335E+01
35.0	3	+7.1966659E+01	+1.3120042E+00	+7.3059997E+01	+7.0509994E+01	+7.2256500E+01
37.0	3	+7.8466644E+01	+8.1946285E-01	+7.8969985E+01	+7.7519989E+01	+7.2656845E+01
38.0	6	+7.0829910E+01	+7.7737572E+00	+7.8079986E+01	+6.3539993E+01	+7.2857009E+01
39.0	3	+8.0859985E+01	+3.7336840E-01	+8.1259994E+01	+8.0519989E+01	+7.3057189E+01
40.0	3	+6.7523315E+01	+1.7958196E+00	+6.8609985E+01	+6.5449996E+01	+7.3257354E+01
43.0	9	+7.1511032E+01	+1.7750930E+00	+7.3809997E+01	+6.9179992E+01	+7.3857864E+01
44.0	3	+7.2226654E+01	+9.4874195E-01	+7.2979995E+01	+7.1159988E+01	+7.4058029E+01
47.0	3	+7.7466659E+01	+2.1928479E+00	+7.9979995E+01	+7.5939987E+01	+7.4658554E+01
48.0	3	+7.8329986E+01	+7.0948980E-01	+7.8769989E+01	+7.7509994E+01	+7.4858718E+01
50.0	3	+7.1633316E+01	+2.5825927E+00	+7.4389999E+01	+6.9269989E+01	+7.5259063E+01
54.0	3	+7.8683319E+01	+1.4105442E+00	+8.0309997E+01	+7.7599987E+01	+7.6059738E+01
55.0	3	+7.9733322E+01	+1.4273652E+00	+8.0829986E+01	+7.8119995E+01	+7.6259918E+01
56.0	3	+7.8126663E+01	+1.9159144E+00	+8.0289993E+01	+7.6639999E+01	+7.6460083E+01
57.0	3	+7.1373321E+01	+9.8227604E-01	+7.2469985E+01	+7.0569992E+01	+7.6660247E+01

ANB 3066 PROPELLNT (ANT P POLYMER) TENSILE SM, .0002 IN/MIN, 77 DEG, LINED CTNS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F = +1.5017531E+01 SIGNIFICANCE OF F = SIGNIFICANT σ = +1.4816968E-02
R = -3.4798276E-01 SIGNIFICANCE OF R = SIGNIFICANT S = +1.0772212E-04
t = +3.8752460E+00 SIGNIFICANCE OF t = SIGNIFICANT S = +1.3954496E-02
N = 111 DEGREES OF FREEDOM = 109
STORAGE-CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = STRAIN AT RUPTURE
UNIT OF MEASURE = IN/IN
0.28
0.24
0.20
0.16
0.12
0.08
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPLLNT (ANT P POLYMER) TENSILE ER, .0002 IN/MIN, 77 DEG, LINED CTNS

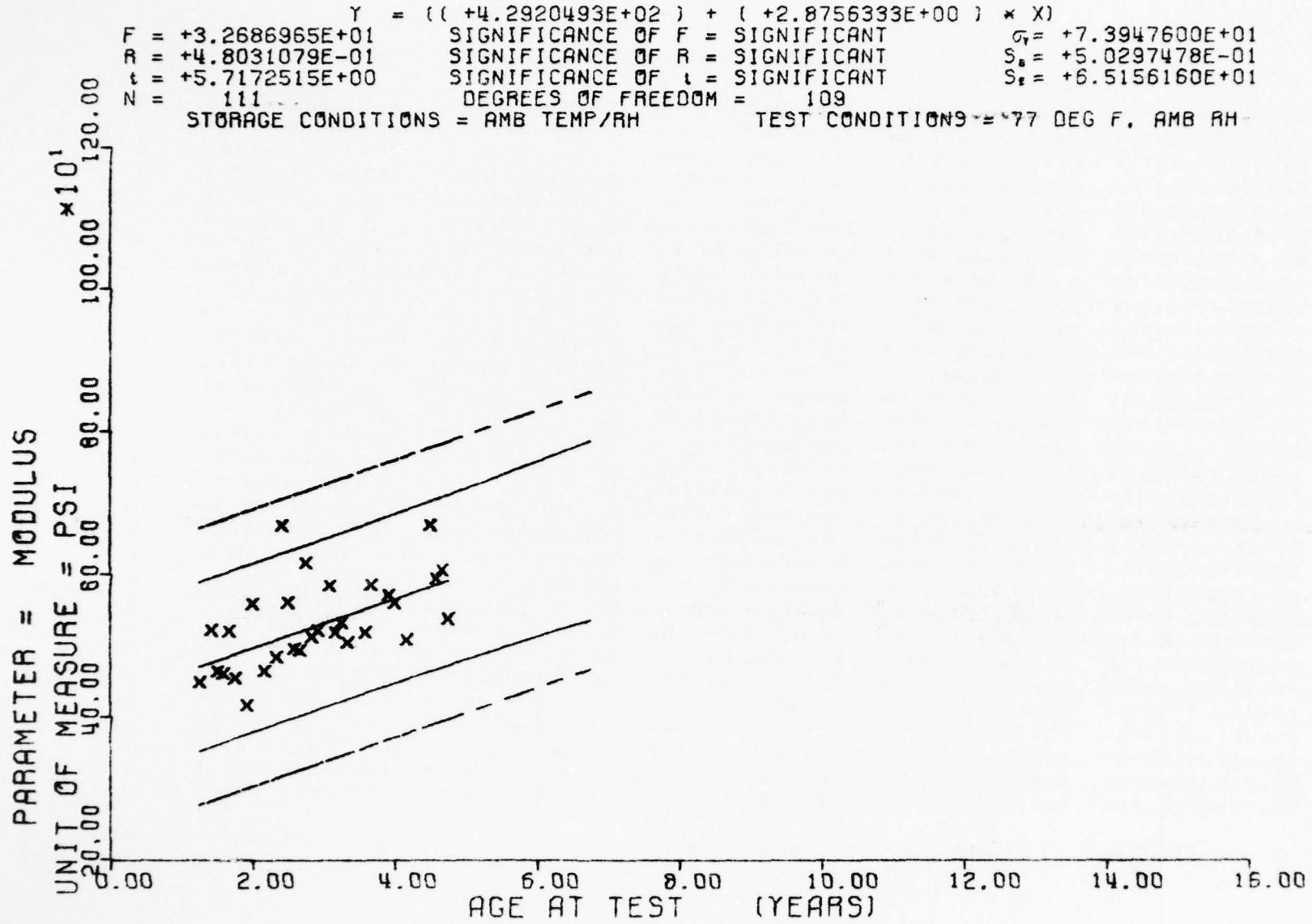
Figure 4-20

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	6	+1.7018318E-01	+2.3057754E-02	+1.9859999E-01	+1.3599997E-01	+1.6983181E-01
17.0	3	+1.6293329E-01	+2.5183535E-03	+1.6559994E-01	+1.6059994E-01	+1.6899693E-01
18.0	6	+1.6518330E-01	+1.0459464E-02	+1.7649996E-01	+1.4849996E-01	+1.6857945E-01
19.0	3	+1.6769993E-01	+6.1568143E-03	+1.7289996E-01	+1.6089999E-01	+1.6816204E-01
20.0	3	+1.6209995E-01	+5.6940502E-03	+1.6709995E-01	+1.5559995E-01	+1.6774457E-01
21.0	6	+1.7579984E-01	+1.7125674E-02	+1.9569998E-01	+1.5469998E-01	+1.6732710E-01
23.0	3	+1.5489997E-01	+1.0204350E-02	+2.0529997E-01	+1.8489998E-01	+1.6649222E-01
24.0	3	+1.6009998E-01	+2.4955283E-03	+1.6209995E-01	+1.5729999E-01	+1.6607479E-01
26.0	3	+1.7669994E-01	+1.3908482E-03	+1.7649996E-01	+1.7409998E-01	+1.6523987E-01
28.0	3	+1.6609996E-01	+6.6102383E-03	+1.7289996E-01	+1.5969997E-01	+1.6440498E-01
29.0	3	+1.4283329E-01	+4.9059905E-03	+1.4759999E-01	+1.3779997E-01	+1.6398751E-01
30.0	6	+1.5128326E-01	+1.2319588E-02	+1.6929996E-01	+1.3599997E-01	+1.6357004E-01
31.0	3	+1.6769993E-01	+2.0656898E-02	+1.9089996E-01	+1.5129995E-01	+1.6315263E-01
32.0	3	+1.5209996E-01	+5.4104013E-03	+1.5729999E-01	+1.4649999E-01	+1.6273516E-01
33.0	3	+1.5383327E-01	+4.0680505E-03	+1.5739995E-01	+1.4939999E-01	+1.6231769E-01
34.0	3	+1.6669994E-01	+1.0420559E-02	+1.7419999E-01	+1.5479999E-01	+1.6190028E-01
35.0	3	+1.5556663E-01	+3.8638024E-03	+1.5999996E-01	+1.5289998E-01	+1.6148281E-01
37.0	3	+1.6929996E-01	+9.3604663E-03	+1.7889994E-01	+1.6019999E-01	+1.6064792E-01
38.0	6	+1.6393327E-01	+5.6388109E-03	+1.7189997E-01	+1.5869998E-01	+1.6023045E-01
39.0	3	+1.7426663E-01	+2.3238322E-03	+1.7689996E-01	+1.7249995E-01	+1.5981304E-01
40.0	3	+1.6123330E-01	+5.5228477E-03	+1.6719996E-01	+1.5629994E-01	+1.5939557E-01
43.0	9	+1.6142195E-01	+2.0841332E-02	+1.9259995E-01	+1.3379997E-01	+1.5814322E-01
44.0	3	+1.4493328E-01	+1.1631360E-03	+1.4619994E-01	+1.4389997E-01	+1.5772575E-01
47.0	3	+1.5493327E-01	+3.2131604E-03	+1.5859997E-01	+1.5259999E-01	+1.5647339E-01
48.0	3	+1.5893328E-01	+1.0692463E-02	+1.6559994E-01	+1.4659994E-01	+1.5605598E-01
50.0	3	+1.6093325E-01	+7.7669491E-03	+1.6959995E-01	+1.5459996E-01	+1.5522110E-01
54.0	3	+1.3693326E-01	+1.5535174E-02	+1.4959996E-01	+1.1959999E-01	+1.5355128E-01
55.0	3	+1.5426659E-01	+4.1634161E-03	+1.5759998E-01	+1.4959996E-01	+1.5313380E-01
56.0	3	+1.5226662E-01	+2.5147250E-03	+1.5459996E-01	+1.4959996E-01	+1.5271639E-01
57.0	3	+1.5993326E-01	+3.2145308E-03	+1.6359996E-01	+1.5759998E-01	+1.5229892E-01

ANB 3066 PROPELLNT (ANT P POLYMER) TENSILE ER, .0002 IN/MIN, 77 DEG, LINEC CTNS



ANB 3066 PROPLLNT (ANT P POLYMER) TENSILE MODULUS, .0002 IN/MIN, 77 DEG, LINED

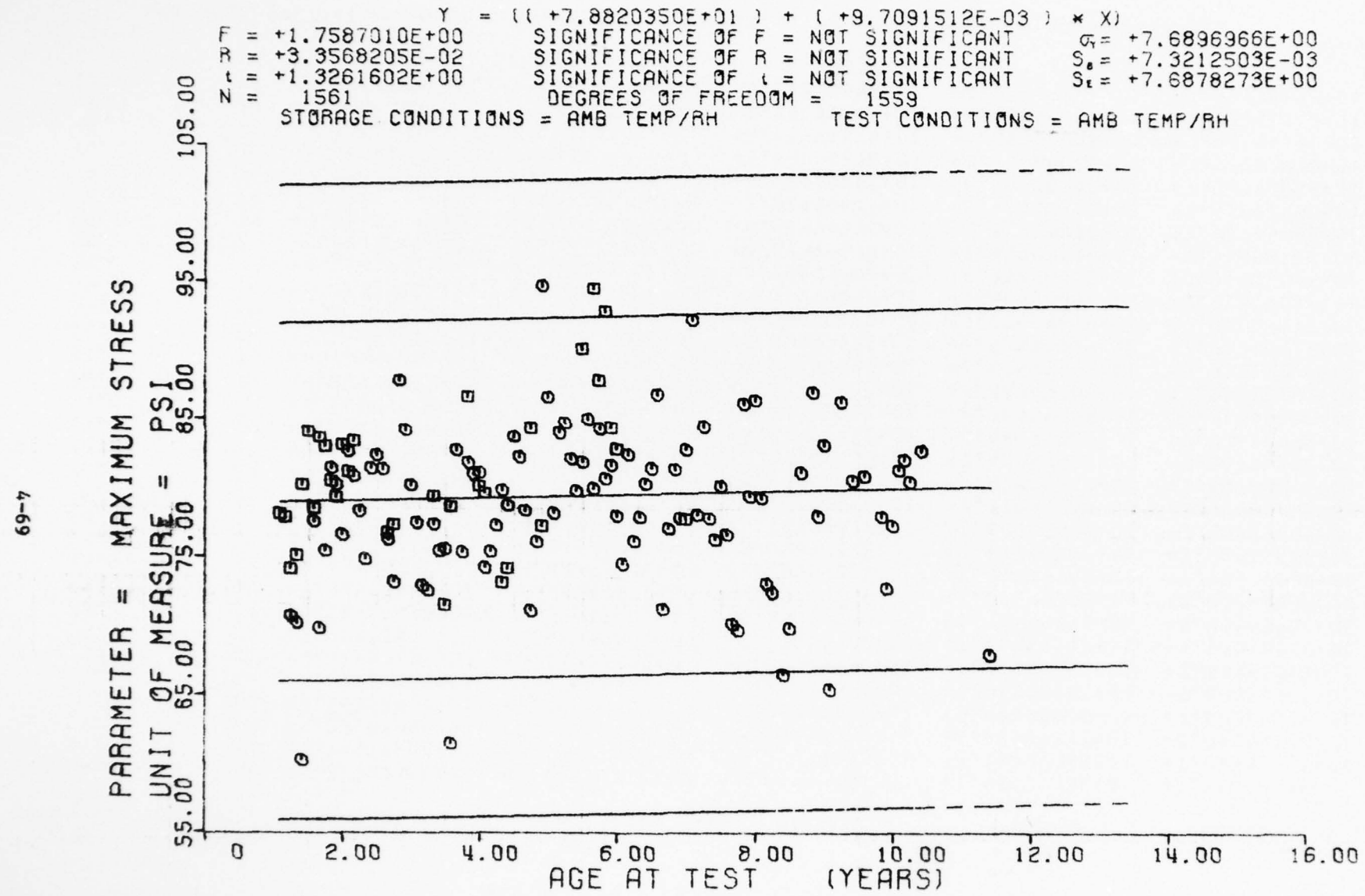
Figure 4-21

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	6	+4.5016650E+02	+2.7520295E+01	+4.9000000E+02	+4.2200000E+02	+4.7233935E+02
17.0	3	+5.2333325E+02	+1.9035055E+01	+5.4300000E+02	+5.0500000E+02	+4.7809157E+02
18.0	6	+4.6516650E+02	+3.8269657E+01	+5.0500000E+02	+4.2900000E+02	+4.8096630E+02
19.0	3	+4.6266650E+02	+1.6258331E+01	+4.8100000E+02	+4.5000000E+02	+4.8384179E+02
20.0	3	+5.2200000E+02	+2.4515301E+01	+5.4600000E+02	+4.9700000E+02	+4.8671752E+02
21.0	6	+4.5533325E+02	+9.1953611E+01	+5.6600000E+02	+3.5600000E+02	+4.8959301E+02
23.0	3	+4.1733325E+02	+2.7646579E+01	+4.4900000E+02	+3.9800000E+02	+4.9534448E+02
24.0	3	+5.6000000E+02	+7.9372539E+00	+5.6900000E+02	+5.5400000E+02	+4.9821997E+02
26.0	3	+4.6566650E+02	+2.0816659E+00	+4.6800000E+02	+4.6400000E+02	+5.0397119E+02
28.0	3	+4.8433325E+02	+8.3266639E+00	+4.9100000E+02	+4.7500000E+02	+5.0972265E+02
29.0	3	+6.6966650E+02	+2.4785748E+01	+6.9200000E+02	+6.4300000E+02	+5.1259814E+02
30.0	6	+5.6216650E+02	+1.2268564E+02	+6.7600000E+02	+4.3900000E+02	+5.1547387E+02
31.0	3	+4.9700000E+02	+1.7058722E+01	+5.1600000E+02	+4.8300000E+02	+5.1834936E+02
32.0	3	+4.9466650E+02	+1.4843629E+01	+5.1100000E+02	+4.8200000E+02	+5.2122509E+02
33.0	3	+6.1733325E+02	+8.0208062E+00	+6.2500000E+02	+6.0900000E+02	+5.2410083E+02
34.0	3	+5.1333325E+02	+4.0216083E+01	+5.5800000E+02	+4.8000000E+02	+5.2697631E+02
35.0	3	+5.2233325E+02	+2.1007935E+01	+5.4300000E+02	+5.0100000E+02	+5.2985205E+02
37.0	3	+5.8533325E+02	+3.4268547E+01	+6.2300000E+02	+5.5600000E+02	+5.3560327E+02
38.0	6	+5.1950000E+02	+6.3597955E+01	+5.8600000E+02	+4.5700000E+02	+5.3847900E+02
39.0	3	+5.3333325E+02	+8.0208062E+00	+5.4100000E+02	+5.2500000E+02	+5.4135449E+02
40.0	3	+5.0533325E+02	+2.4906491E+01	+5.3400000E+02	+4.8500000E+02	+5.4423022E+02
43.0	9	+5.1933325E+02	+5.7801384E+01	+6.0300000E+02	+4.4900000E+02	+5.5285693E+02
44.0	3	+5.8633325E+02	+6.6583281E+00	+5.9400000E+02	+5.8200000E+02	+5.5573266E+02
47.0	3	+5.7233325E+02	+1.1150485E+01	+5.8500000E+02	+5.6400000E+02	+5.6435961E+02
48.0	3	+5.6133325E+02	+3.5388321E+01	+6.0100000E+02	+5.3300000E+02	+5.6723510E+02
50.0	3	+5.0933325E+02	+1.1718930E+01	+5.1800000E+02	+4.9600000E+02	+5.7298657E+02
54.0	3	+6.7066650E+02	+9.6126652E+01	+7.8100000E+02	+6.0500000E+02	+5.8448901E+02
55.0	3	+5.9500000E+02	+4.9999999E+00	+6.0000000E+02	+5.9000000E+02	+5.8736474E+02
56.0	3	+6.0766650E+02	+3.8785736E+01	+6.5200000E+02	+5.8000000E+02	+5.9024023E+02
57.0	3	+5.3900000E+02	+4.5825756E+00	+5.4400000E+02	+5.3500000E+02	+5.9311596E+02

AND 3066 PROPELLANT (ANT P POLYMER) TENSILE MODULUS, .0002 IN/MIN, 77 DEG, LINEC



ANB 3066 PROPELLANT (ANA & ANB UNLNO, G POLYMER) TENSILE SM .0002 IN/MIN 77 DEG

Figure 4-22

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	5	+7.8139938E+01	+3.0443391E+00	+8.2699996E+01	+7.4399993E+01	+7.8946563E+01
14.0	16	+7.7899948E+01	+3.1051766E+00	+8.2599990E+01	+7.2699996E+01	+7.8956268E+01
15.0	14	+7.2949890E+01	+3.2588234E+00	+7.8099990E+01	+6.6299987E+01	+7.8965972E+01
16.0	18	+7.1634353E+01	+8.3669015E+00	+8.2729995E+01	+5.4250000E+01	+7.8975692E+01
17.0	12	+7.6941604E+01	+9.0744489E+00	+8.8199996E+01	+5.9500000E+01	+7.8985397E+01
18.0	15	+8.4119918E+01	+3.8621899E+00	+9.2899993E+01	+7.7199996E+01	+7.8995101E+01
19.0	18	+7.8297149E+01	+5.4805040E+00	+9.1599990E+01	+7.1199996E+01	+7.9004821E+01
20.0	22	+7.7428543E+01	+8.4050749E+00	+9.2399993E+01	+6.2049987E+01	+7.9014526E+01
21.0	38	+7.8457244E+01	+5.5854917E+00	+9.2599990E+01	+7.0769989E+01	+7.9024230E+01
22.0	32	+8.1068023E+01	+4.8977120E+00	+9.1199996E+01	+7.2199996E+01	+7.9033950E+01
23.0	15	+7.9657226E+01	+4.1167675E+00	+8.7899993E+01	+7.4319992E+01	+7.9043655E+01
24.0	21	+7.9769927E+01	+7.9172164E+00	+8.9299987E+01	+6.6000000E+01	+7.9053359E+01
25.0	31	+8.2007965E+01	+4.4220129E+00	+9.1000000E+01	+7.3289993E+01	+7.9063064E+01
26.0	23	+8.2609024E+01	+5.2718700E+00	+9.1000000E+01	+7.0799987E+01	+7.9072784E+01
27.0	10	+7.8393920E+01	+4.7688544E+00	+8.7799987E+01	+7.4599990E+01	+7.9082489E+01
28.0	15	+7.4877944E+01	+9.5369043E+00	+8.3199996E+01	+4.4699996E+01	+7.9092193E+01
29.0	12	+8.1480743E+01	+5.8047124E+00	+8.9000000E+01	+6.7899993E+01	+7.9101913E+01
30.0	5	+8.2445938E+01	+4.0986609E+00	+8.7799987E+01	+7.8489990E+01	+7.9111618E+01
31.0	13	+8.1445266E+01	+4.5739158E+00	+9.0399993E+01	+7.6259994E+01	+7.9121322E+01
32.0	18	+7.6475448E+01	+3.9227767E+00	+8.3809997E+01	+6.9299987E+01	+7.9131042E+01
33.0	24	+7.4112396E+01	+8.5814300E+00	+9.3500000E+01	+5.8799987E+01	+7.9140747E+01
34.0	6	+8.7883300E+01	+1.8930550E+00	+9.0899993E+01	+8.6000000E+01	+7.9150451E+01
35.0	7	+8.4271377E+01	+4.3806900E+00	+9.1500000E+01	+8.0399993E+01	+7.9160156E+01
36.0	28	+8.0279556E+01	+6.0261026E+00	+9.6799987E+01	+7.3899993E+01	+7.9169876E+01
37.0	15	+7.7541229E+01	+7.6167502E+00	+8.9199996E+01	+6.6299987E+01	+7.9179580E+01
38.0	13	+7.2989379E+01	+5.2990577E+00	+8.0299987E+01	+6.4000000E+01	+7.9189285E+01
39.0	9	+7.2633300E+01	+3.8731683E+00	+8.1000000E+01	+6.7000000E+01	+7.9199005E+01
40.0	22	+7.7942199E+01	+4.5817473E+00	+8.5299987E+01	+7.1000000E+01	+7.9208709E+01
41.0	22	+7.5490829E+01	+6.0693368E+00	+8.5799987E+01	+6.6500000E+01	+7.9218414E+01
42.0	22	+7.4751708E+01	+5.7366515E+00	+8.8549987E+01	+6.6199995E+01	+7.9228134E+01
43.0	13	+6.8147598E+01	+1.1763601E+01	+8.0159988E+01	+5.0599990E+01	+7.9237838E+01

ANB 3066 PROPELLANT (ANA & ANB UNLND, G POLYMER) TENSILE SM .0002 IN/MIN 77 DEG

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
44.0	10	+8.2854949E+01	+4.3977591E+00	+8.9389999E+01	+7.5199996E+01	+7.9247543E+01
45.0	5	+7.5429931E+01	+7.5791737E+00	+8.3000000E+01	+6.5759994E+01	+7.9257247E+01
46.0	34	+8.2640762E+01	+6.1934080E+00	+9.3399993E+01	+7.0199996E+01	+7.9266967E+01
47.0	12	+8.1101577E+01	+6.8396346E+00	+9.3259994E+01	+7.3199996E+01	+7.9276672E+01
48.0	23	+8.1085998E+01	+5.8545901E+00	+9.5419998E+01	+7.3299987E+01	+7.9286376E+01
49.0	18	+7.6399902E+01	+4.2271099E+00	+8.0879989E+01	+6.7599990E+01	+7.9296096E+01
50.0	10	+7.5479919E+01	+6.9178147E+00	+8.5699996E+01	+6.2899993E+01	+7.9305801E+01
51.0	32	+7.7381484E+01	+6.5338071E+00	+8.8699996E+01	+6.5019989E+01	+7.9315505E+01
52.0	44	+7.8726943E+01	+5.0530175E+00	+8.8500000E+01	+6.7299987E+01	+7.9325225E+01
53.0	45	+7.7721664E+01	+5.8109139E+00	+9.4500000E+01	+7.0159988E+01	+7.9334930E+01
54.0	16	+8.3831130E+01	+5.2155290E+00	+9.1799987E+01	+7.7099990E+01	+7.9344635E+01
55.0	18	+8.2356582E+01	+6.8381246E+00	+9.7699996E+01	+7.2299987E+01	+7.9354339E+01
56.0	19	+7.8484634E+01	+2.9567480E+00	+8.3399993E+01	+7.1000000E+01	+7.9364059E+01
57.0	6	+7.7819946E+01	+7.5071816E+00	+8.5299987E+01	+6.9399993E+01	+7.9373764E+01
58.0	11	+7.6168136E+01	+2.8829633E+00	+8.0000000E+01	+7.0909988E+01	+7.9383468E+01
59.0	16	+8.9348678E+01	+1.0460698E+01	+1.0300000E+02	+7.5869995E+01	+7.9393188E+01
60.0	20	+8.6679870E+01	+7.3399614E+00	+9.3299987E+01	+6.0899993E+01	+7.9402893E+01
61.0	31	+7.8257614E+01	+6.3387376E+00	+9.3099990E+01	+6.6489990E+01	+7.9412597E+01
62.0	18	+8.4089920E+01	+8.0936007E+00	+9.3699996E+01	+6.4899993E+01	+7.9422317E+01
63.0	15	+8.4836563E+01	+1.0319330E+01	+9.6199996E+01	+6.5599990E+01	+7.9432022E+01
64.0	29	+8.2233718E+01	+9.6051488E+00	+1.0050000E+02	+6.1500000E+01	+7.9441726E+01
65.0	13	+7.9879379E+01	+7.4933634E+00	+9.0109985E+01	+6.6500000E+01	+7.9451431E+01
66.0	16	+8.3513656E+01	+5.2990190E+00	+9.0929992E+01	+7.5799987E+01	+7.9461151E+01
67.0	18	+8.5072143E+01	+5.5272347E+00	+9.5699996E+01	+7.5500000E+01	+7.9470855E+01
68.0	27	+8.1644699E+01	+6.0089164E+00	+9.5539993E+01	+7.3969985E+01	+7.9480560E+01
69.0	34	+8.5321960E+01	+6.8889148E+00	+1.0319999E+02	+7.0599990E+01	+7.9490280E+01
70.0	28	+8.4252029E+01	+8.3413820E+00	+9.6379989E+01	+6.7699996E+01	+7.9499984E+01
71.0	34	+8.2560791E+01	+9.6944555E+00	+9.8079986E+01	+5.7599990E+01	+7.9509689E+01
72.0	20	+7.8802917E+01	+6.1942415E+00	+8.8679992E+01	+7.0399993E+01	+7.9519409E+01
73.0	16	+7.4555557E+01	+1.0158131E+01	+8.7899993E+01	+6.0799987E+01	+7.9529113E+01
74.0	10	+8.2489883E+01	+1.1049076E+01	+9.9799987E+01	+7.2000000E+01	+7.9538818E+01

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PROPELLANT SURVEILLANCE REPORT ANB-3066 PROPELLANT.(U)
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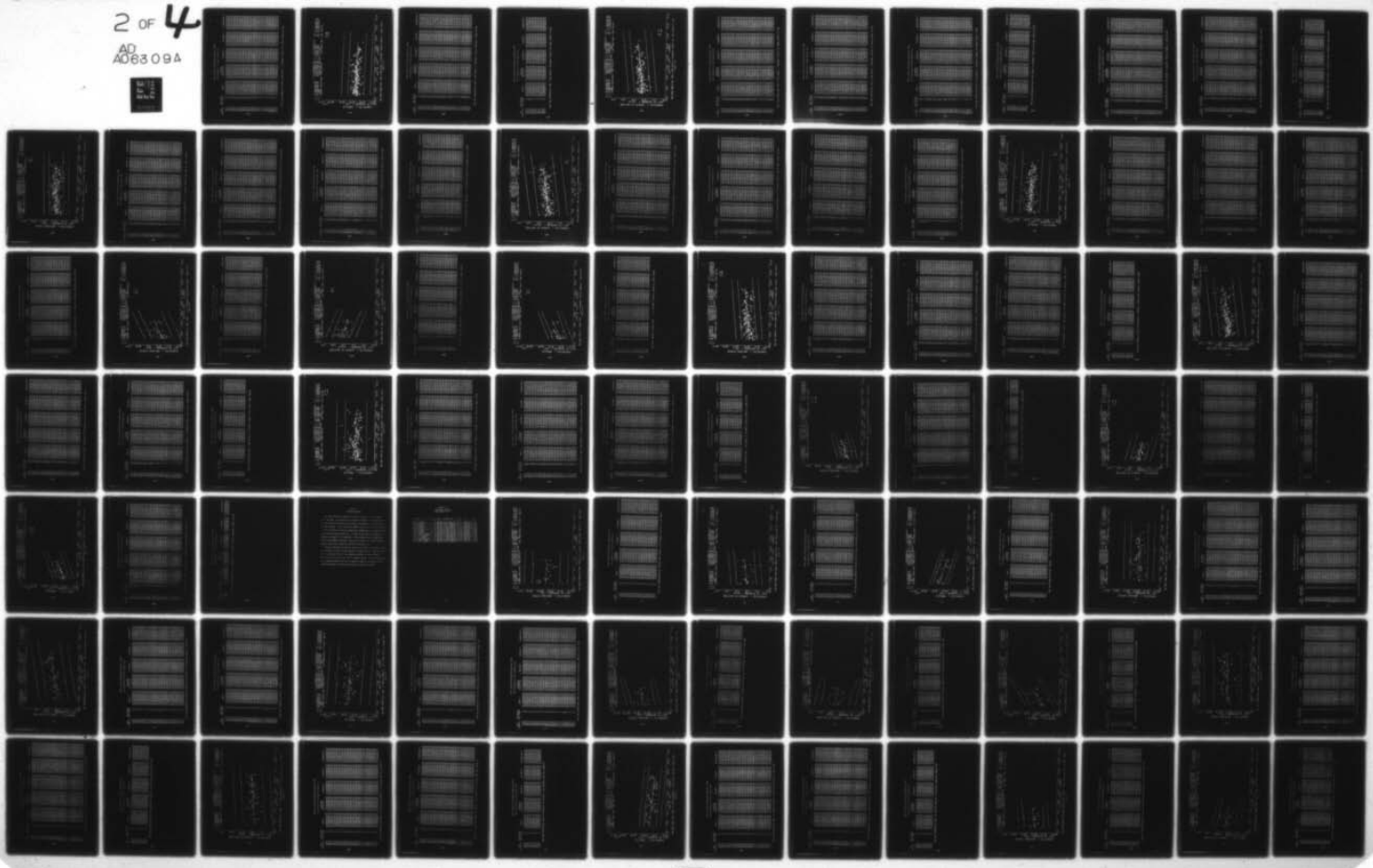

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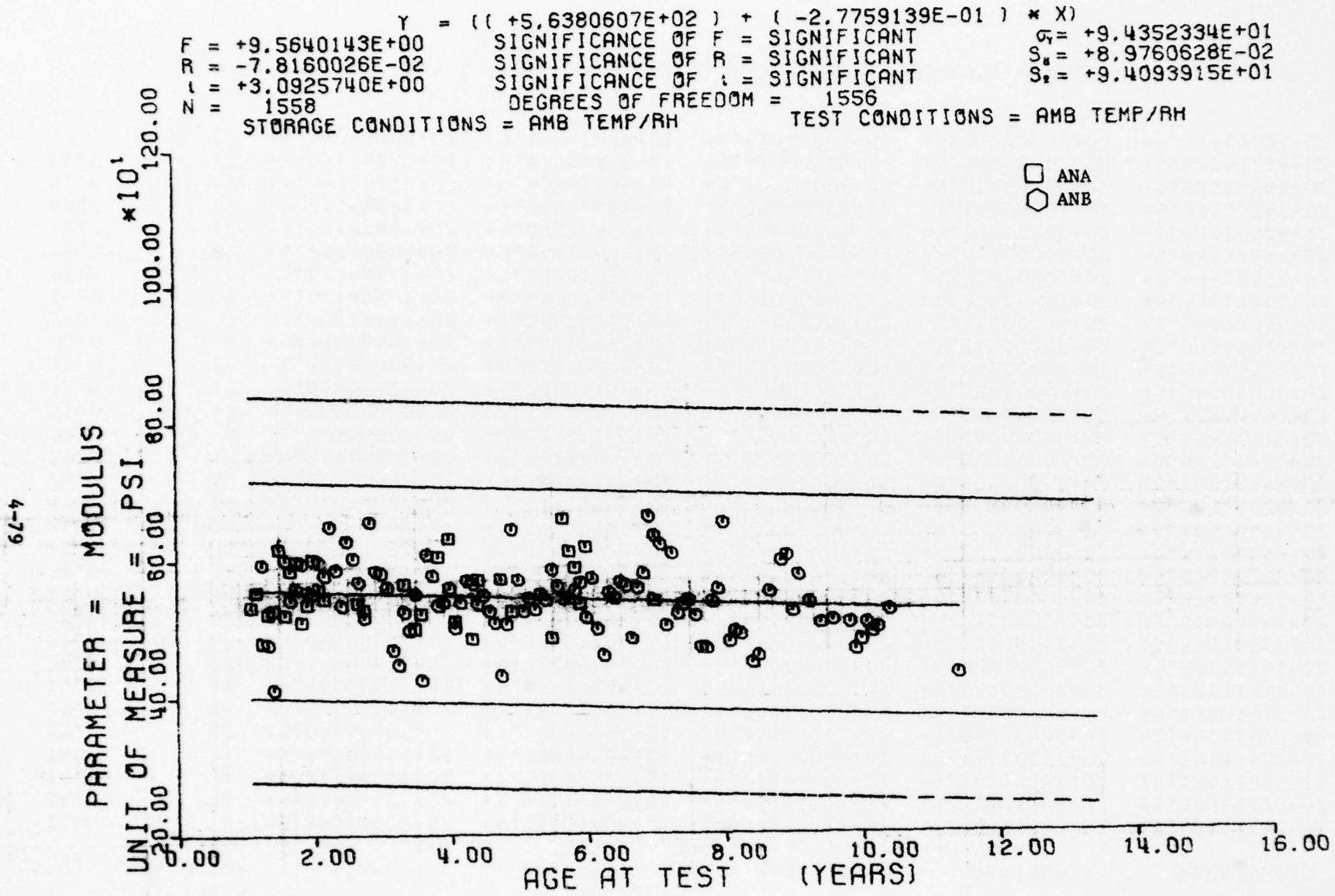
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
75.0	20	+7.6174926E+01	+5.6349387E+00	+8.4500000E+01	+6.7899993E+01	+7.9548522E+01
76.0	9	+7.7924362E+01	+1.0589988E+01	+9.0479995E+01	+6.5899993E+01	+7.9558.42E+01
77.0	7	+8.0372802E+01	+8.6595377E+00	+8.9509994E+01	+6.9459991E+01	+7.9567947E+01
78.0	12	+8.1493240E+01	+6.1303927E+00	+9.1449996E+01	+7.4599990E+01	+7.9577651E+01
79.0	5	+8.6841934E+01	+3.3216851E+00	+9.0619995E+01	+8.2599990E+01	+7.9587371E+01
80.0	18	+7.1279357E+01	+5.6671216E+00	+7.9119995E+01	+6.1099990E+01	+7.9597076E+01
81.0	16	+7.7276766E+01	+7.5837079E+00	+8.7099990E+01	+6.5000000E+01	+7.9606781E+01
82.0	3	+8.1426651E+01	+4.0496713E+00	+8.6079986E+01	+7.8699996E+01	+7.9616485E+01
83.0	21	+7.7823242E+01	+6.5912915E+00	+9.2859985E+01	+6.4500000E+01	+7.9626205E+01
84.0	21	+8.2098007E+01	+8.1220499E+00	+9.4879989E+01	+6.7239990E+01	+7.9635910E+01
85.0	6	+9.2274902E+01	+2.1919459E+00	+9.4759994E+01	+8.8389999E+01	+7.9645614E+01
86.0	13	+7.8067626E+01	+1.2152393E+01	+9.4719985E+01	+6.3000000E+01	+7.9655334E+01
87.0	10	+8.4510925E+01	+4.0407910E+00	+8.8309997E+01	+7.6000000E+01	+7.9665039E+01
88.0	7	+7.7847061E+01	+5.0525130E+00	+8.2699996E+01	+7.0109985E+01	+7.9674743E+01
89.0	18	+7.6265457E+01	+6.6592012E+00	+8.7079986E+01	+6.2079986E+01	+7.9684463E+01
90.0	11	+8.0208084E+01	+1.1467175E+01	+9.4000000E+01	+6.5369995E+01	+7.9694168E+01
91.0	7	+7.6691329E+01	+6.6369056E+00	+8.6209991E+01	+7.0219985E+01	+7.9703872E+01
92.0	10	+7.0219894E+01	+4.8150228E+00	+8.0799987E+01	+6.2699996E+01	+7.9713577E+01
93.0	5	+6.9739929E+01	+1.0420518E+00	+7.1099990E+01	+6.8199996E+01	+7.9723297E+01
94.0	9	+8.6147644E+01	+6.3361839E+00	+9.2899993E+01	+7.5969985E+01	+7.9733001E+01
95.0	19	+7.9427246E+01	+7.2660320E+00	+9.3129989E+01	+6.6299987E+01	+7.9742706E+01
96.0	6	+8.6426589E+01	+9.9862154E-01	+8.8129989E+01	+8.5429992E+01	+7.9752426E+01
97.0	6	+7.9348297E+01	+5.9631456E+00	+8.6129989E+01	+7.1250000E+01	+7.9762130E+01
98.0	9	+7.3146606E+01	+2.0215930E+00	+7.6039993E+01	+6.9199996E+01	+7.9771835E+01
99.0	1	+7.2500000E+01	+0.0000000E+39	+7.2500000E+01	+7.2500000E+01	+7.9781555E+01
101.0	8	+6.6492401E+01	+4.8200714E+00	+7.2029998E+01	+5.9539993E+01	+7.9800964E+01
102.0	3	+6.9896652E+01	+2.1884838E+00	+7.2159988E+01	+6.7789993E+01	+7.9810668E+01
104.0	11	+8.1202590E+01	+4.6350996E+00	+8.7309997E+01	+7.2899993E+01	+7.9830093E+01
106.0	2	+8.7000000E+01	+9.8994949E+00	+9.4000000E+01	+8.0000000E+01	+7.9849517E+01
107.0	2	+7.7999984E+01	+8.4689085E-01	+7.8599990E+01	+7.7399993E+01	+7.9859222E+01
108.0	3	+8.3196655E+01	+1.0757096E+00	+8.4389999E+01	+8.2299987E+01	+7.9868927E+01

ANB 3066 PROPELLANT (ANA & ANB UNLVD, G POLYMER) TENSILE SM .0002 IN/MIN 77 DEG



ANB 3066 PROPELLANT (ANA & ANB UNLNO. G POLYMER) TENSILE MODULUS, .0002 IN/MIN

Figure 4-24

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	5	+5.3339990E+02	+4.0525300E+01	+5.8200000E+02	+4.9000000E+02	+5.6019726E+02
14.0	16	+5.5587500E+02	+3.4711909E+01	+5.9600000E+02	+4.6200000E+02	+5.5991967E+02
15.0	14	+5.2178564E+02	+7.3742982E+01	+6.2700000E+02	+4.1200000E+02	+5.5964208E+02
16.0	18	+4.9250000E+02	+6.5389556E+01	+5.9000000E+02	+3.4400000E+02	+5.5936450E+02
17.0	12	+5.0966650E+02	+7.2389518E+01	+6.2500000E+02	+4.0900000E+02	+5.5908691E+02
18.0	15	+6.1866650E+02	+5.1422155E+01	+6.7000000E+02	+4.9500000E+02	+5.5880932E+02
19.0	18	+5.4438867E+02	+8.3647818E+01	+6.5300000E+02	+3.8300000E+02	+5.5853173E+02
20.0	22	+5.6750000E+02	+6.7284576E+01	+6.7500000E+02	+4.4800000E+02	+5.5825415E+02
21.0	38	+5.7660522E+02	+6.8945940E+01	+7.3300000E+02	+4.4000000E+02	+5.5797656E+02
22.0	32	+5.6062500E+02	+9.4320917E+01	+7.6800000E+02	+3.7700000E+02	+5.5769897E+02
23.0	15	+5.4400000E+02	+5.8078764E+01	+6.1800000E+02	+4.5300000E+02	+5.5742138E+02
24.0	21	+5.7671411E+02	+7.2986397E+01	+7.1500000E+02	+4.6200000E+02	+5.5714379E+02
25.0	31	+5.8335473E+02	+6.5053592E+01	+7.0400000E+02	+4.6200000E+02	+5.5686621E+02
26.0	23	+5.5756518E+02	+5.5959259E+01	+6.5100000E+02	+4.5300000E+02	+5.5658862E+02
27.0	10	+6.5189990E+02	+6.0881396E+01	+7.4700000E+02	+5.4500000E+02	+5.5631103E+02
28.0	15	+5.8919995E+02	+6.7861413E+01	+6.6900000E+02	+3.8700000E+02	+5.5603344E+02
29.0	12	+5.3591650E+02	+7.6623588E+01	+6.2700000E+02	+4.0000000E+02	+5.5575585E+02
30.0	5	+6.3039990E+02	+9.1308816E+01	+7.3600000E+02	+5.1800000E+02	+5.5547827E+02
31.0	13	+6.0500000E+02	+6.8944422E+01	+7.3100000E+02	+5.1600000E+02	+5.5520068E+02
32.0	18	+5.6155541E+02	+4.2815915E+01	+6.3900000E+02	+4.5900000E+02	+5.5492309E+02
33.0	24	+5.2012500E+02	+6.8737884E+01	+6.8600000E+02	+4.0400000E+02	+5.5464550E+02
34.0	6	+6.5766650E+02	+2.3491842E+01	+6.9300000E+02	+6.2600000E+02	+5.5436791E+02
35.0	7	+5.8571411E+02	+7.2662953E+01	+7.0200000E+02	+5.3100000E+02	+5.5409033E+02
36.0	28	+5.8278564E+02	+6.4552796E+01	+6.9300000E+02	+4.8400000E+02	+5.5381274E+02
37.0	15	+5.6226660E+02	+9.5920701E+01	+7.5700000E+02	+4.2100000E+02	+5.5353515E+02
38.0	19	+4.7147363E+02	+3.6661163E+01	+5.6500000E+02	+4.0000000E+02	+5.5325756E+02
39.0	10	+4.4879980E+02	+6.8432935E+01	+6.1400000E+02	+3.8700000E+02	+5.5297998E+02
40.0	22	+5.3509082E+02	+5.0401161E+01	+6.3800000E+02	+4.6000000E+02	+5.5270239E+02
41.0	22	+4.9831811E+02	+4.6054198E+01	+5.6500000E+02	+4.0500000E+02	+5.5242480E+02
42.0	22	+5.4113623E+02	+5.1730340E+01	+6.4600000E+02	+4.5800000E+02	+5.5214721E+02
43.0	13	+4.6407690E+02	+9.3934783E+01	+6.0100000E+02	+3.3600000E+02	+5.5186962E+02

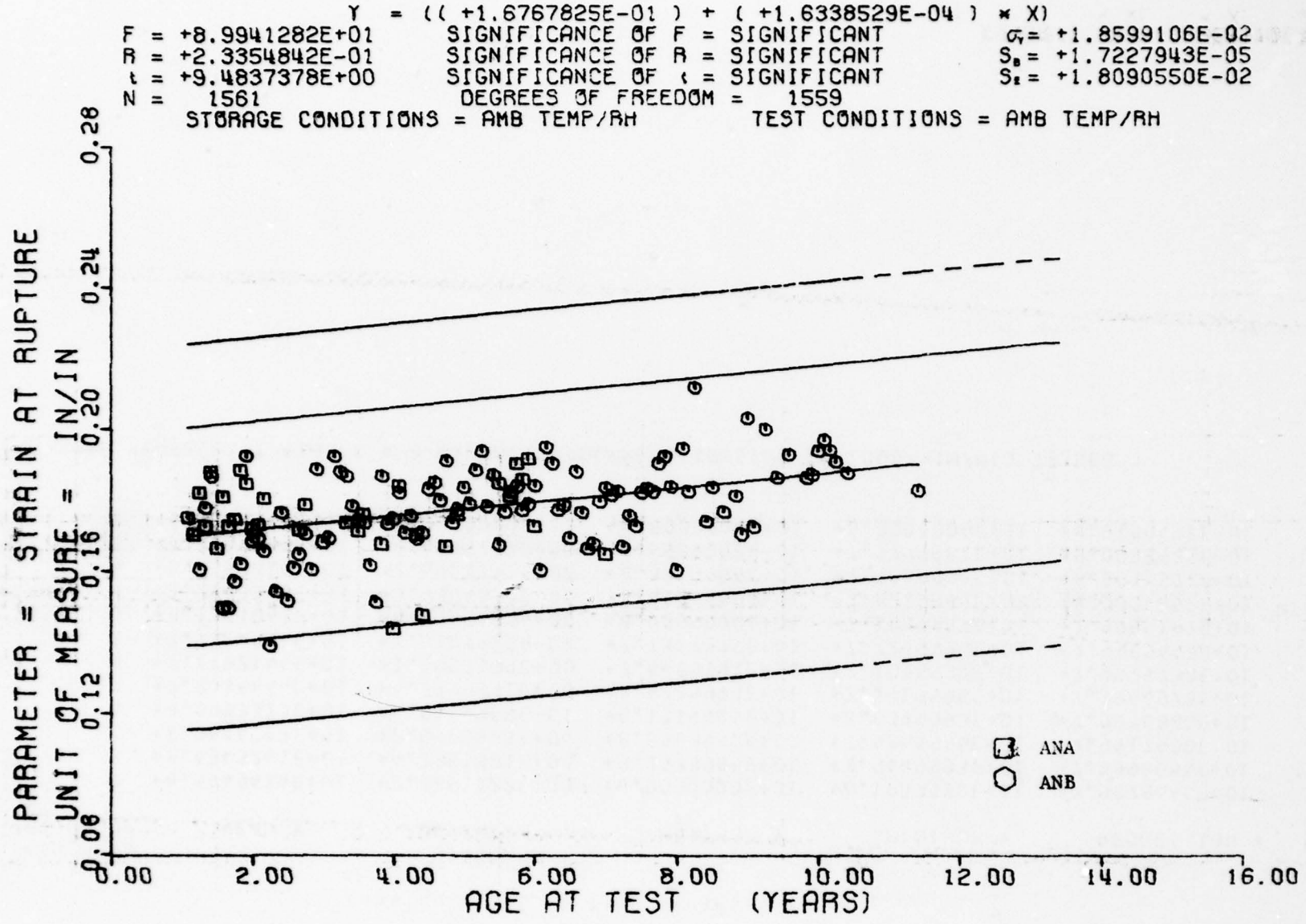
ANB 3066 PROPELLANT (ANA & ANB UNLND, G POLYMER) TENSILE MODULUS, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
109.0	9	+6.5445434E+01	+2.3651322E+00	+6.9000000E+01	+6.1989990E+01	+7.9878646E+01
111.0	6	+8.6343261E+01	+4.2851501E+00	+9.0979995E+01	+7.9649993E+01	+7.9898056E+01
113.0	12	+8.0606582E+01	+2.8978625E+00	+8.5569992E+01	+7.4869995E+01	+7.9917480E+01
115.0	3	+8.0953323E+01	+6.8414959E-01	+8.1719985E+01	+8.0399993E+01	+7.9936889E+01
118.0	7	+7.8035644E+01	+4.2299791E+00	+8.4289993E+01	+7.3919998E+01	+7.9966018E+01
119.0	9	+7.2792144E+01	+1.1957399E+00	+7.4459991E+01	+7.1059997E+01	+7.9975738E+01
120.0	2	+7.7324996E+01	+7.8103512E-02	+7.7389999E+01	+7.7259994E+01	+7.9985443E+01
121.0	9	+8.1381042E+01	+6.2162600E+00	+8.9099990E+01	+7.1939987E+01	+7.9995147E+01
122.0	3	+8.2143310E+01	+3.9554880E+00	+8.6129989E+01	+7.8219985E+01	+8.0004852E+01
123.0	3	+8.0553314E+01	+2.6901742E+00	+8.3219985E+01	+7.7839996E+01	+8.0014572E+01
125.0	6	+8.2809936E+01	+2.6774723E+00	+8.6569992E+01	+7.9799987E+01	+8.0033981E+01
137.0	1	+6.8000000E+01	+0.0000000E+11	+6.8000000E+01	+6.8000000E+01	+8.0150497E+01

ANB 3066 PROPELLANT (ANA & ANB UNLND, G POLYMER) TENSILE SM .0002 IN/MIN 77 DEG



ANB 3066 PROPELLANT (ANA & ANB UNLND, G POLYMER) TENSILE ER .0002 IN/MIN 77 DEG

Figure 4-23

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	5	+1.7>19992E-01	+1.2773825E-02	+1.9199997E-01	+1.579S599E-01	+1.6980224E-01
14.0	16	+1.7043709E-01	+1.0196974E-02	+1.8599998E-01	+1.5199995E-01	+1.6956562E-01
15.0	14	+1.7471390E-01	+1.2496188E-02	+1.9399994E-01	+1.5399998E-01	+1.7012900E-01
16.0	18	+1.7660510E-01	+1.4985082E-02	+2.1049994E-01	+1.519S995E-01	+1.7029237E-01
17.0	12	+1.8799972E-01	+1.3269568E-02	+2.1199995E-01	+1.6599994E-01	+1.7045575E-01
18.0	15	+1.6646635E-01	+1.3262997E-02	+2.0499998E-01	+1.5199995E-01	+1.7061918E-01
19.0	18	+1.7242193E-01	+2.2675190E-02	+2.1599996E-01	+1.439S999E-01	+1.7078256E-01
20.0	22	+1.6237688E-01	+2.0177663E-02	+2.1699994E-01	+1.339S994E-01	+1.7094594E-01
21.0	38	+1.6431272E-01	+1.9222272E-02	+2.0399999E-01	+1.279S996E-01	+1.7110931E-01
22.0	32	+1.7383086E-01	+2.5215253E-02	+2.3599994E-01	+1.247S996E-01	+1.7127269E-01
23.0	15	+1.8750637E-01	+1.0078854E-02	+2.0849996E-01	+1.719S999E-01	+1.7143607E-01
24.0	21	+1.7034262E-01	+1.3174569E-02	+2.0289999E-01	+1.4599996E-01	+1.7159944E-01
25.0	31	+1.7133504E-01	+1.4195078E-02	+2.0199996E-01	+1.4399999E-01	+1.7176288E-01
26.0	23	+1.7558217E-01	+1.6772554E-02	+2.0899999E-01	+1.423S996E-01	+1.7192625E-01
27.0	10	+1.3934969E-01	+7.8813515E-03	+1.5119999E-01	+1.2399995E-01	+1.7208963E-01
28.0	15	+1.5450638E-01	+1.8255351E-02	+2.0399999E-01	+1.2799996E-01	+1.7225301E-01
29.0	12	+1.7676639E-01	+1.5399011E-02	+1.9799995E-01	+1.5199995E-01	+1.7241638E-01
30.0	5	+1.5199995E-01	+1.8814541E-02	+1.6999995E-01	+1.319S996E-01	+1.7257976E-01
31.0	13	+1.6116124E-01	+1.4255979E-02	+1.9399994E-01	+1.3999998E-01	+1.7274314E-01
32.0	19	+1.6692185E-01	+1.7528955E-02	+1.9699996E-01	+1.4399999E-01	+1.7290657E-01
33.0	24	+1.7254126E-01	+9.7718909E-03	+1.9799995E-01	+1.539S998E-01	+1.7306995E-01
34.0	6	+1.6066658E-01	+5.0058743E-03	+1.6999995E-01	+1.5599995E-01	+1.7323333E-01
35.0	7	+1.8899983E-01	+1.9537049E-02	+2.0799994E-01	+1.579S999E-01	+1.7339670E-01
36.0	28	+1.6842097E-01	+1.5017803E-02	+1.8899995E-01	+1.279S996E-01	+1.7356008E-01
37.0	15	+1.6955298E-01	+1.6280998E-02	+1.9039994E-01	+1.3869994E-01	+1.7372345E-01
38.0	19	+1.9273638E-01	+1.4978088E-02	+2.1799999E-01	+1.6599994E-01	+1.7388689E-01
39.0	9	+1.8833315E-01	+1.6031735E-02	+2.0499998E-01	+1.499S997E-01	+1.7405027E-01
40.0	22	+1.8408149E-01	+3.4957066E-02	+3.0599999E-01	+1.5399998E-01	+1.7421364E-01
41.0	22	+1.7872679E-01	+1.1688693E-02	+1.9799995E-01	+1.4799994E-01	+1.7437702E-01
42.0	22	+1.7356777E-01	+1.3049034E-02	+2.1069997E-01	+1.519S995E-01	+1.7454040E-01
43.0	13	+1.7492276E-01	+1.0248823E-02	+1.9299995E-01	+1.511S999E-01	+1.7470377E-01

ANB 3066 PROPELLANT (ANA & ANB UNLND, G POLYMER) TENSILE FR .0002 IN/MIN 77 DEG

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
44.0	10	+1.6200977E-01	+9.2519980E-03	+1.7089998E-01	+1.4509999E-01	+1.7486715E-01
45.0	5	+1.5151995E-01	+2.8473851E-02	+1.7999994E-01	+1.1995994E-01	+1.7503058E-01
46.0	34	+1.8427014E-01	+2.0480993E-02	+2.3599994E-01	+1.5759998E-01	+1.7519:96E-01
47.0	12	+1.7349970E-01	+1.7237205E-02	+1.9769996E-01	+1.4599996E-01	+1.7535734E-01
48.0	23	+1.7099094E-01	+2.1647623E-02	+1.9699996E-01	+1.1279994E-01	+1.7552071E-01
49.0	13	+1.8312174E-01	+2.1486107E-02	+2.3999994E-01	+1.3999998E-01	+1.7568409E-01
50.0	10	+1.7089974E-01	+1.2416400E-02	+1.8699997E-01	+1.5099996E-01	+1.7584747E-01
51.0	32	+1.7586201E-01	+1.5330907E-02	+2.1999996E-01	+1.5039998E-01	+1.7601084E-01
52.0	44	+1.6957223E-01	+1.1162080E-02	+1.9599997E-01	+1.4199995E-01	+1.7617428E-01
53.0	45	+1.6539514E-01	+1.8953818E-02	+1.9999998E-01	+1.3269996E-01	+1.7633765E-01
54.0	16	+1.8337464E-01	+2.3856808E-02	+2.1599996E-01	+1.3689994E-01	+1.7650103E-01
55.0	18	+1.8529415E-01	+2.2276501E-02	+2.2199994E-01	+1.5319997E-01	+1.7666441E-01
56.0	19	+1.8022596E-01	+2.0037599E-02	+2.0599997E-01	+1.3719999E-01	+1.7682778E-01
57.0	6	+1.7926657E-01	+1.5661261E-02	+1.9799995E-01	+1.5599995E-01	+1.7699116E-01
58.0	11	+1.7365419E-01	+1.0046851E-02	+1.8599998E-01	+1.5729999E-01	+1.7715460E-01
59.0	16	+1.7714965E-01	+1.7029935E-02	+2.0799994E-01	+1.5799999E-01	+1.7731797E-01
60.0	20	+1.8389958E-01	+1.6396725E-02	+2.1399998E-01	+1.2999999E-01	+1.7748135E-01
61.0	31	+1.7919641E-01	+1.7380676E-02	+2.1999996E-01	+1.4239996E-01	+1.7764472E-01
62.0	18	+1.8874406E-01	+1.7079645E-02	+2.1499997E-01	+1.6199994E-01	+1.7780810E-01
63.0	15	+1.9399958E-01	+2.1198272E-02	+2.3879998E-01	+1.6599994E-01	+1.7797148E-01
64.0	29	+1.7836499E-01	+1.5109030E-02	+2.1099996E-01	+1.5399998E-01	+1.7813485E-01
65.0	18	+1.8730509E-01	+2.2943147E-02	+2.4599999E-01	+1.5399998E-01	+1.7829829E-01
66.0	16	+1.7980599E-01	+1.2765502E-02	+1.9379997E-01	+1.4299994E-01	+1.7846167E-01
67.0	18	+1.7701083E-01	+1.4461920E-02	+2.0399999E-01	+1.5199995E-01	+1.7862504E-01
68.0	27	+1.8242555E-01	+1.7142996E-02	+2.1279996E-01	+1.3799995E-01	+1.7878842E-01
69.0	34	+1.8593782E-01	+1.4190732E-02	+2.0979994E-01	+1.5999996E-01	+1.7895179E-01
70.0	28	+1.7985671E-01	+1.5740763E-02	+2.0999997E-01	+1.5359997E-01	+1.7911517E-01
71.0	34	+1.8279951E-01	+1.9303856E-02	+2.3399996E-01	+1.5679997E-01	+1.7927861E-01
72.0	20	+1.8258965E-01	+1.4877044E-02	+2.0719999E-01	+1.4669996E-01	+1.7944198E-01
73.0	16	+1.6044342E-01	+9.4506101E-03	+1.7399996E-01	+1.3999998E-01	+1.7960536E-01
74.0	10	+1.9509971E-01	+9.9311049E-03	+2.0699995E-01	+1.8199998E-01	+1.7976874E-01

ANB 3066 PROPELLANT (ANA & ANB UNLND. G POLYMER) TENSILE ER .0002 IN/MIN 77 DEG

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
75.0	20	+1.9059950E-01	+1.3258145E-02	+2.1399998E-01	+1.5599995E-01	+1.7993211E-01
76.0	9	+1.7754423E-01	+8.5992095E-03	+1.8999999E-01	+1.5999996E-01	+1.8009549E-01
77.0	7	+1.7878544E-01	+6.7475860E-03	+1.8959999E-01	+1.7009997E-01	+1.8025887E-01
78.0	12	+1.6951638E-01	+1.9674989E-02	+1.9999998E-01	+1.3679999E-01	+1.8042230E-01
79.0	5	+1.8819993E-01	+8.4560890E-03	+1.9599997E-01	+1.7679995E-01	+1.8058568E-01
80.0	18	+1.7692744E-01	+9.4187437E-03	+1.9599997E-01	+1.6269999E-01	+1.8074905E-01
81.0	16	+1.6649967E-01	+1.2318387E-02	+1.9199997E-01	+1.4469999E-01	+1.8091243E-01
82.0	3	+1.6796660E-01	+5.9999640E-03	+1.7399996E-01	+1.6199994E-01	+1.8107581E-01
83.0	21	+1.7994236E-01	+9.9481474E-03	+1.9199997E-01	+1.6159999E-01	+1.8123918E-01
84.0	21	+1.8118530E-01	+1.5902542E-02	+2.0799994E-01	+1.4959996E-01	+1.8140256E-01
85.0	6	+1.8176651E-01	+1.4069324E-02	+1.9919997E-01	+1.6129994E-01	+1.8156599E-01
86.0	13	+1.8289196E-01	+1.2950933E-02	+2.0519995E-01	+1.5999996E-01	+1.8172937E-01
87.0	10	+1.6708964E-01	+1.1556016E-02	+1.8209999E-01	+1.4419996E-01	+1.8189275E-01
88.0	7	+1.7598557E-01	+9.8932674E-03	+1.8719995E-01	+1.5799999E-01	+1.8205612E-01
89.0	18	+1.7300522E-01	+1.3820413E-02	+1.9999998E-01	+1.4879995E-01	+1.8221950E-01
90.0	11	+1.8250876E-01	+2.3136175E-02	+2.1299999E-01	+1.4999997E-01	+1.8238288E-01
91.0	7	+1.8369984E-01	+1.5490926E-02	+2.1119999E-01	+1.6559994E-01	+1.8254631E-01
92.0	10	+1.8279981E-01	+8.6541348E-03	+1.9799995E-01	+1.7199999E-01	+1.8270969E-01
93.0	5	+1.9059991E-01	+4.5598979E-03	+1.9499999E-01	+1.8399995E-01	+1.8287307E-01
94.0	9	+1.9256639E-01	+9.2701640E-03	+2.1359997E-01	+1.8239998E-01	+1.8303644E-01
95.0	19	+1.8413650E-01	+1.9625528E-02	+2.1519994E-01	+1.4999997E-01	+1.8319982E-01
96.0	6	+1.6059994E-01	+1.8627281E-02	+1.8479996E-01	+1.3439995E-01	+1.8336319E-01
97.0	6	+1.9493323E-01	+1.3899310E-02	+2.1399998E-01	+1.7999994E-01	+1.8352657E-01
98.0	9	+1.8269968E-01	+2.1618974E-02	+2.1119999E-01	+1.6159999E-01	+1.8369001E-01
99.0	1	+2.1199995E-01	+0.0000000E+39	+2.1199995E-01	+2.1199995E-01	+1.8385338E-01
101.0	8	+1.7406225E-01	+1.4493252E-02	+1.9359999E-01	+1.5439999E-01	+1.8418014E-01
102.0	3	+1.8393325E-01	+8.7957784E-03	+1.9359999E-01	+1.7639994E-01	+1.8434351E-01
104.0	11	+1.7688149E-01	+5.5665703E-03	+1.8939995E-01	+1.7109996E-01	+1.8467026E-01
106.0	2	+1.8149995E-01	+4.4547242E-02	+2.1299999E-01	+1.4999997E-01	+1.8499708E-01
107.0	2	+1.7059993E-01	+4.8100599E-03	+1.7399996E-01	+1.6719996E-01	+1.8516045E-01
108.0	3	+2.0333325E-01	+1.5216366E-03	+2.0499998E-01	+2.0199996E-01	+1.8532383E-01

ANB 3066 PROPELLANT (ANA & ANB UNLND. G POLYMER) TENSILE ER .0002 IN/MIN 77 DEG

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
109.0	9	+1.7246645E-01	+8.3089330E-03	+1.8199998E-01	+1.5999996E-01	+1.8548721E-01
111.0	6	+2.0024979E-01	+1.3528279E-02	+2.2119998E-01	+1.8209999E-01	+1.8581402E-01
113.0	12	+1.8649971E-01	+1.4674783E-02	+2.1399998E-01	+1.6319996E-01	+1.8614077E-01
115.0	3	+1.9296663E-01	+2.6492708E-03	+1.9559997E-01	+1.9029998E-01	+1.8646752E-01
118.0	7	+1.8632829E-01	+1.7044378E-02	+2.0889997E-01	+1.6995995E-01	+1.8695771E-01
119.0	9	+1.8741083E-01	+9.7280928E-03	+1.9849997E-01	+1.6799998E-01	+1.8712109E-01
120.0	2	+1.9394999E-01	+4.4369543E-04	+1.9429999E-01	+1.9359999E-01	+1.8728446E-01
121.0	9	+1.9717741E-01	+8.6772273E-03	+2.1099996E-01	+1.8699997E-01	+1.8744784E-01
122.0	3	+1.9433325E-01	+1.2662043E-02	+2.0399999E-01	+1.7999994E-01	+1.8761122E-01
123.0	3	+1.9099992E-01	+9.8479904E-03	+1.9899994E-01	+1.7999994E-01	+1.8777459E-01
125.0	6	+1.8783330E-01	+7.0807657E-03	+1.9999998E-01	+1.8099999E-01	+1.8810141E-01
137.0	1	+1.8299996E-01	+0.0000000E+11	+1.8299996E-01	+1.8299996E-01	+1.9006198E-01

ANB 3066 PROPELLANT (ANA & ANB UNLND, G POLYMER) TENSILE ER .0002 IN/MIN 77 DEG

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
44.0	10	+6.0979980E+02	+5.7466511E+01	+6.8600000E+02	+5.2900000E+02	+5.5159204E+02
45.0	5	+5.7959985E+02	+5.0510394E+01	+6.3200000E+02	+5.0700000E+02	+5.5131445E+02
46.0	34	+5.4505859E+02	+5.8295974E+01	+6.5800000E+02	+4.4900000E+02	+5.5103686E+02
47.0	12	+5.3925000E+02	+3.9055031E+01	+5.7600000E+02	+4.7700000E+02	+5.5075903E+02
48.0	23	+5.7047802E+02	+1.1380800E+02	+9.7400000E+02	+4.7900000E+02	+5.5048144E+02
49.0	18	+5.0522216E+02	+4.9769534E+01	+6.1000000E+02	+4.1700000E+02	+5.5020385E+02
50.0	10	+5.3850000E+02	+8.0184855E+01	+6.8200000E+02	+4.4500000E+02	+5.4992626E+02
51.0	32	+5.7106250E+02	+1.9650903E+02	+1.3460000E+03	+4.3100000E+02	+5.4964868E+02
52.0	44	+5.5243164E+02	+6.3465573E+01	+6.8000000E+02	+4.4900000E+02	+5.4937109E+02
53.0	45	+5.4586645E+02	+5.3369041E+01	+6.6000000E+02	+4.1500000E+02	+5.4909350E+02
54.0	16	+5.5012500E+02	+6.5029096E+01	+6.7800000E+02	+4.5300000E+02	+5.4881591E+02
55.0	18	+5.2644433E+02	+7.0959990E+01	+6.4700000E+02	+4.1300000E+02	+5.4853833E+02
56.0	19	+5.0968408E+02	+7.2914754E+01	+6.9300000E+02	+4.1600000E+02	+5.4826074E+02
57.0	6	+5.0283325E+02	+8.2127746E+01	+6.1300000E+02	+4.1600000E+02	+5.4798315E+02
58.0	12	+5.0766650E+02	+3.6725847E+01	+5.5500000E+02	+4.5300000E+02	+5.4770556E+02
59.0	16	+6.0856250E+02	+9.5160193E+01	+7.6000000E+02	+5.1900000E+02	+5.4742797E+02
60.0	20	+5.7264990E+02	+4.4530622E+01	+6.4000000E+02	+4.7000000E+02	+5.4715039E+02
61.0	31	+5.2609667E+02	+7.5167526E+01	+6.7800000E+02	+3.8500000E+02	+5.4687280E+02
62.0	18	+5.4572216E+02	+7.1425654E+01	+7.0400000E+02	+4.0500000E+02	+5.4659521E+02
63.0	15	+5.2846655E+02	+5.7949321E+01	+6.3500000E+02	+4.4000000E+02	+5.4631762E+02
64.0	29	+5.5131030E+02	+8.9028929E+01	+7.8800000E+02	+3.6700000E+02	+5.4604003E+02
65.0	18	+5.4172216E+02	+8.0070414E+01	+6.7500000E+02	+4.1800000E+02	+5.4576245E+02
66.0	16	+5.6756250E+02	+7.3228381E+01	+7.1100000E+02	+4.3000000E+02	+5.4548486E+02
67.0	18	+5.6183325E+02	+8.6590483E+01	+7.4500000E+02	+4.4800000E+02	+5.4520727E+02
68.0	27	+5.5648144E+02	+8.0611304E+01	+7.1700000E+02	+4.1000000E+02	+5.4492968E+02
69.0	34	+5.6255859E+02	+6.2403472E+01	+6.9300000E+02	+4.5300000E+02	+5.4465209E+02
70.0	28	+5.6507128E+02	+7.7862142E+01	+7.3100000E+02	+4.5800000E+02	+5.4437451E+02
71.0	34	+5.5814697E+02	+9.6066306E+01	+7.9500000E+02	+4.0300000E+02	+5.4409692E+02
72.0	20	+5.3129980E+02	+5.6502538E+01	+6.2500000E+02	+4.1600000E+02	+5.4381933E+02
73.0	14	+5.7378564E+02	+4.1873763E+01	+6.4900000E+02	+4.9400000E+02	+5.4354174E+02
74.0	10	+4.9979980E+02	+1.1647298E+02	+6.7900000E+02	+3.7500000E+02	+5.4326416E+02

ANB 3C66 PROPELLANT (ANA & ANB UNLND, G POLYMER) TENSILE MODULUS, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
75.0	20	+4.6079980E+02	+5.7091431E+01	+5.8700000E+02	+3.7300000E+02	+5.4298657E+02
76.0	9	+5.5255541E+02	+8.9266610E+01	+6.9200000E+02	+4.5800000E+02	+5.4270898E+02
77.0	7	+5.4400000E+02	+7.2631489E+01	+6.1900000E+02	+4.5600000E+02	+5.4243139E+02
78.0	11	+5.6809082E+02	+8.4657491E+01	+6.9700000E+02	+4.3500000E+02	+5.4215380E+02
79.0	5	+5.6319995E+02	+5.2121972E+01	+6.4900000E+02	+5.1300000E+02	+5.4187622E+02
80.0	18	+4.8555541E+02	+6.2924064E+01	+5.7800000E+02	+3.8200000E+02	+5.4159863E+02
81.0	16	+5.5900000E+02	+7.9537831E+01	+6.7900000E+02	+4.3200000E+02	+5.4132104E+02
82.0	3	+5.7933325E+02	+4.7056703E+01	+6.1500000E+02	+5.2600000E+02	+5.4104345E+02
83.0	21	+6.6295214E+02	+3.0146450E+02	+1.4150000E+03	+4.1600000E+02	+5.4076586E+02
84.0	21	+6.2152368E+02	+2.5351994E+02	+1.4100000E+03	+4.5900000E+02	+5.4048828E+02
85.0	6	+6.2250000E+02	+1.3996428E+01	+6.3500000E+02	+5.9600000E+02	+5.4021069E+02
86.0	13	+5.0330761E+02	+8.2933090E+01	+5.9500000E+02	+3.7800000E+02	+5.3993310E+02
87.0	10	+6.0889990E+02	+3.8968505E+01	+6.9500000E+02	+5.6000000E+02	+5.3965551E+02
88.0	7	+5.2100000E+02	+1.1052299E+02	+6.6800000E+02	+3.0200000E+02	+5.3937792E+02
89.0	17	+5.3476464E+02	+7.2742292E+01	+6.7800000E+02	+4.6000000E+02	+5.3910034E+02
90.0	11	+5.4127270E+02	+8.4657062E+01	+6.6200000E+02	+4.3500000E+02	+5.3882275E+02
91.0	7	+5.1857128E+02	+4.6878769E+01	+6.0600000E+02	+4.7300000E+02	+5.3854516E+02
92.0	10	+4.7159985E+02	+4.5115161E+01	+5.6700000E+02	+4.1300000E+02	+5.3826757E+02
93.0	5	+4.7059985E+02	+4.7045722E+01	+5.4700000E+02	+4.2000000E+02	+5.3798999E+02
94.0	9	+5.3822216E+02	+5.6173342E+01	+6.5900000E+02	+4.6700000E+02	+5.3771240E+02
95.0	19	+5.5626293E+02	+9.0834918E+01	+6.9300000E+02	+4.1700000E+02	+5.3743481E+02
96.0	6	+6.5400000E+02	+7.8714674E+01	+7.7100000E+02	+5.4800000E+02	+5.3715722E+02
97.0	6	+4.8000000E+02	+3.9278492E+01	+5.4200000E+02	+4.3900000E+02	+5.3687963E+02
98.0	9	+4.9488867E+02	+3.1150619E+01	+5.5200000E+02	+4.6200000E+02	+5.3660205E+02
99.0	1	+4.9100000E+02	+0.0000000E+39	+4.9100000E+02	+4.9100000E+02	+5.3632446E+02
101.0	7	+4.4857128E+02	+2.6881574E+01	+4.7900000E+02	+3.9600000E+02	+5.3576928E+02
102.0	3	+4.5833325E+02	+1.6165807E+01	+4.7300000E+02	+4.4100000E+02	+5.3549169E+02
104.0	11	+5.5136352E+02	+4.5893948E+01	+6.5100000E+02	+4.8300000E+02	+5.3493652E+02
106.0	2	+5.9750000E+02	+2.4748737E+01	+6.1500000E+02	+5.8000000E+02	+5.3438134E+02
107.0	2	+6.0550000E+02	+6.5760930E+01	+6.5200000E+02	+5.5900000E+02	+5.3410375E+02
108.0	3	+5.2366650E+02	+1.7616280E+01	+5.3800000E+02	+5.0400000E+02	+5.3382617E+02

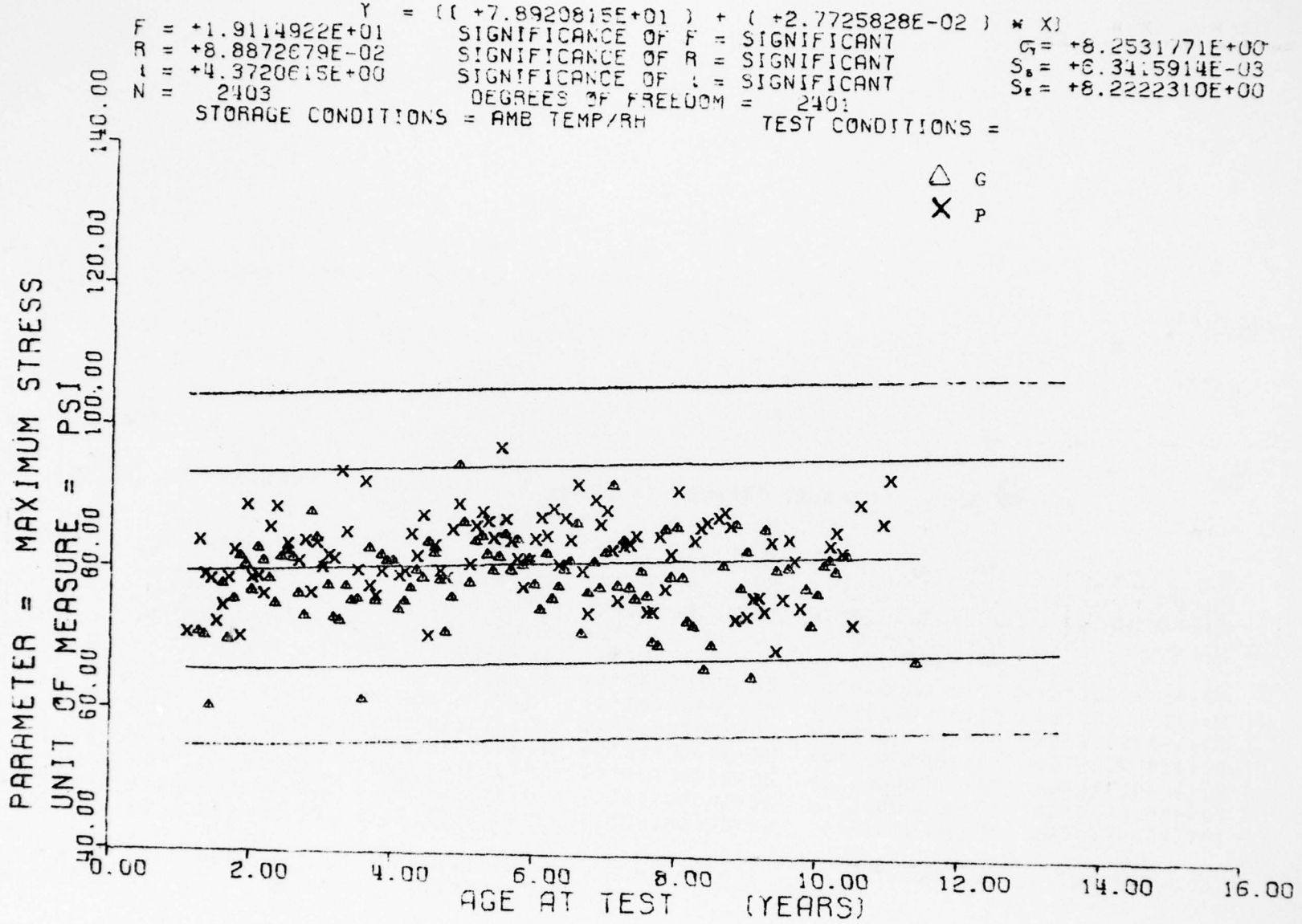
ANB 3066 PROPELLANT (ANA & ANB UNLND, G POLYMER) TENSILE MODULUS, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
109.0	9	+5.7633325E+02	+2.5476852E+02	+1.0540000E+03	+4.1700000E+02	+5.3354858E+02
111.0	6	+5.3683325E+02	+3.6279011E+01	+5.8400000E+02	+5.0000000E+02	+5.3299340E+02
113.0	12	+5.0625000E+02	+2.8616984E+01	+5.6400000E+02	+4.5300000E+02	+5.3243823E+02
115.0	3	+5.1033325E+02	+1.3051181E+01	+5.2400000E+02	+4.9800000E+02	+5.3188305E+02
118.0	7	+5.0714282E+02	+5.9181721E+01	+5.8700000E+02	+4.4200000E+02	+5.3105004E+02
119.0	9	+4.6666650E+02	+2.2901964E+01	+5.1000000E+02	+4.3800000E+02	+5.3077246E+02
120.0	2	+4.8100000E+02	+0.0000000E+01	+4.8100000E+02	+4.8100000E+02	+5.3049487E+02
121.0	9	+5.0588867E+02	+6.1115555E+01	+6.1900000E+02	+4.3000000E+02	+5.3021728E+02
122.0	3	+4.9300000E+02	+6.7756918E+01	+5.6700000E+02	+4.3400000E+02	+5.2993969E+02
123.0	3	+4.9933325E+02	+3.8850139E+01	+5.4200000E+02	+4.6600000E+02	+5.2966210E+02
125.0	6	+5.2500000E+02	+2.6359059E+01	+5.6800000E+02	+4.8600000E+02	+5.2910693E+02
137.0	1	+4.3200000E+02	+0.0000000E+11	+4.3200000E+02	+4.3200000E+02	+5.2577587E+02

ANB 3066 PROPELLANT (ANA & ANB UNLND, 3 POLYMER) TENSILE MODULUS, .0002 IN/MIN



ANB 3066 PROPLLNT (ANB UNLINED, G & P POLYMER) TENSILE MAX STRESS, .0002 IN/MIN

Figure 4-25

****** LINEAR REGRESSION ANALYSIS ******

***** ANALYSIS OF TIME SERIES *****

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	7	+7.0747070E+01	+4.1623044E+00	+7.7299987E+01	+6.6439987E+01	+7.9261250E+01
15.0	15	+7.9473236E+01	+7.2098352E+00	+9.0399993E+01	+6.6299987E+01	+7.9336700E+01
16.0	30	+7.5225555E+01	+8.3122729E+00	+8.9899993E+01	+5.4250000E+01	+7.9364425E+01
17.0	15	+7.5951232E+01	+8.8055137E+00	+8.8299987E+01	+5.9500000E+01	+7.9392150E+01
18.0	12	+7.2300735E+01	+7.0548569E+00	+8.6399993E+01	+5.9099990E+01	+7.9419876E+01
19.0	11	+7.5997177E+01	+2.8974313E+00	+7.9500000E+01	+7.2599990E+01	+7.9447601E+01
20.0	21	+7.4375625E+01	+6.1558846E+00	+8.5349990E+01	+6.2049987E+01	+7.9475326E+01
21.0	31	+7.7272781E+01	+4.2121273E+00	+8.4519989E+01	+7.0769989E+01	+7.9503051E+01
22.0	23	+7.9059875E+01	+6.4963950E+00	+9.0799987E+01	+6.7099990E+01	+7.9530776E+01
23.0	10	+8.4555923E+01	+5.9137795E+00	+9.1099990E+01	+7.4319992E+01	+7.9558502E+01
24.0	15	+7.7172607E+01	+7.1984867E+00	+8.7699996E+01	+6.6000000E+01	+7.9586227E+01
25.0	33	+8.0718698E+01	+5.8763760E+00	+9.1000000E+01	+6.8919998E+01	+7.9613952E+01
26.0	27	+7.7725845E+01	+7.0739860E+00	+9.0389999E+01	+6.7829986E+01	+7.9641677E+01
27.0	22	+8.2358529E+01	+6.2963343E+00	+9.5399993E+01	+7.4599990E+01	+7.9669403E+01
28.0	30	+8.1772247E+01	+1.0793815E+01	+1.0629998E+02	+4.4699996E+01	+7.9697128E+01
29.0	12	+8.1480743E+01	+5.8047124E+00	+8.9000000E+01	+6.7899993E+01	+7.9724853E+01
30.0	10	+8.2972915E+01	+3.3458098E+00	+8.7799987E+01	+7.8489990E+01	+7.9752578E+01
31.0	13	+8.1445266E+01	+4.5739158E+00	+9.0399993E+01	+7.6259994E+01	+7.9780303E+01
32.0	21	+7.8154663E+01	+4.6407963E+00	+8.6799987E+01	+6.9299987E+01	+7.9808029E+01
33.0	33	+7.7770507E+01	+9.9267234E+00	+9.3500000E+01	+5.8799987E+01	+7.9835754E+01
34.0	17	+8.0559326E+01	+6.3254912E+00	+9.0899993E+01	+7.1500000E+01	+7.9863479E+01
35.0	20	+8.3836914E+01	+3.7618186E+00	+9.1500000E+01	+7.5599990E+01	+7.9891204E+01
36.0	44	+8.0243774E+01	+6.3455013E+00	+9.6799987E+01	+6.6329986E+01	+7.9918945E+01
37.0	26	+7.9354522E+01	+6.9717611E+00	+8.9199996E+01	+6.5299987E+01	+7.9946670E+01
38.0	33	+7.6569595E+01	+6.5017563E+00	+8.7399993E+01	+6.4000000E+01	+7.9974395E+01
39.0	12	+7.7916625E+01	+1.0132610E+01	+9.5000000E+01	+6.7000000E+01	+8.0002120E+01
40.0	27	+8.1336959E+01	+6.5775144E+00	+9.2000000E+01	+7.1000000E+01	+8.0029846E+01
41.0	22	+7.5490829E+01	+6.1693368E+00	+8.5799987E+01	+6.6500000E+01	+8.0057571E+01
42.0	20	+7.6303405E+01	+5.6731970E+00	+8.8549987E+01	+6.8000000E+01	+8.0085296E+01
43.0	9	+6.4928817E+01	+1.4048470E+01	+9.2239990E+01	+5.0599990E+01	+8.0113021E+01
44.0	25	+7.9696304E+01	+6.4566581E+00	+8.9389999E+01	+6.1500000E+01	+8.0140747E+01

ANB 3066 PROPLLNT (ANB UNLINED, G & P POLYMER) TENSILE MAX STRESS, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
45.0	20	+7.5027389E+01	+5.7581135E+00	+8.3799987E+01	+6.5759994E+01	+8.0168472E+01
46.0	44	+8.1155593E+01	+5.6698955E+00	+9.3399993E+01	+7.0199996E+01	+8.0196197E+01
47.0	12	+8.1101577E+01	+6.8396346E+00	+9.3259994E+01	+7.3199996E+01	+8.0223923E+01
48.0	20	+8.1214904E+01	+6.1387259E+00	+9.5419998E+01	+7.3299987E+01	+8.0251647E+01
49.0	22	+7.6723983E+01	+9.0693830E+00	+9.7269989E+01	+6.3199996E+01	+8.0279373E+01
50.0	29	+7.8318527E+01	+7.7131338E+00	+9.2399993E+01	+6.2899993E+01	+8.0307098E+01
51.0	57	+8.0777130E+01	+7.0749497E+00	+9.6039993E+01	+6.5019989E+01	+8.0334823E+01
52.0	50	+8.0506484E+01	+5.1203490E+00	+9.5799987E+01	+6.5799987E+01	+8.0362548E+01
53.0	37	+7.9544769E+01	+6.5216908E+00	+9.5039993E+01	+7.0159988E+01	+8.0390274E+01
54.0	19	+8.1768310E+01	+7.6527933E+00	+9.1799987E+01	+5.8799987E+01	+8.0417999E+01
55.0	42	+8.3036346E+01	+5.8205029E+00	+9.7699996E+01	+7.2299987E+01	+8.0445724E+01
56.0	59	+7.9427169E+01	+4.5996208E+00	+9.1399993E+01	+6.6699998E+01	+8.0473449E+01
57.0	46	+7.8460556E+01	+6.5721989E+00	+8.9699996E+01	+6.9399993E+01	+8.0501174E+01
58.0	34	+8.2624023E+01	+6.8118161E+00	+9.5000000E+01	+7.0909988E+01	+8.0528900E+01
59.0	20	+9.2346405E+01	+6.7407129E+00	+1.0300000E+02	+7.6729995E+01	+8.0556625E+01
60.0	20	+8.6679870E+01	+7.3399614E+00	+9.3299987E+01	+6.0899993E+01	+8.0584350E+01
61.0	40	+7.8849624E+01	+8.6878910E+00	+9.4000000E+01	+6.1199996E+01	+8.0612091E+01
62.0	35	+8.5151611E+01	+7.8219771E+00	+9.5599990E+01	+6.4899993E+01	+8.0639816E+01
63.0	45	+8.7134567E+01	+7.9508711E+00	+9.8599990E+01	+6.5599990E+01	+8.0667541E+01
64.0	36	+8.3136581E+01	+9.4803437E+00	+1.0050000E+02	+6.1500000E+01	+8.0695266E+01
65.0	28	+8.1550979E+01	+6.7546801E+00	+9.0109985E+01	+6.6500000E+01	+8.0722991E+01
66.0	28	+9.0218826E+01	+9.5155226E+00	+1.0559999E+02	+7.5799987E+01	+8.0750717E+01
67.0	46	+8.6434692E+01	+6.8096820E+00	+9.7500000E+01	+7.4299987E+01	+8.0778442E+01
68.0	44	+8.1919804E+01	+6.6301006E+00	+1.0029998E+02	+6.1399993E+01	+8.0806167E+01
69.0	32	+8.3825225E+01	+6.8233374E+00	+1.0319999E+02	+7.0599990E+01	+8.0833892E+01
70.0	10	+7.9231643E+01	+8.1704518E+00	+9.3599990E+01	+6.6099990E+01	+8.0861618E+01
71.0	47	+8.1680114E+01	+1.1568504E+01	+1.0539999E+02	+5.7599990E+01	+8.0889343E+01
72.0	34	+8.1316360E+01	+6.4662732E+00	+9.4279998E+01	+7.0399993E+01	+8.0917068E+01
73.0	26	+7.9568771E+01	+1.0738964E+01	+9.6500000E+01	+6.0799987E+01	+8.0944793E+01
74.0	15	+8.3333206E+01	+9.1077112E+00	+9.9799987E+01	+7.2000000E+01	+8.0972518E+01
75.0	30	+8.0409927E+01	+8.5612448E+00	+1.0250000E+02	+6.7899993E+01	+8.1000244E+01

ANB 3166 PROPLLNT (ANB UNLINED, G & P POLYMER) TENSILE MAX STRESS, .0002 IN/MIN

****** LINEAR REGRESSION ANALYSIS ******

***** ANALYSIS OF TIME SERIES *****

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
76.0	17	+7.9348144E+01	+8.2102625E+00	+9.0479995E+01	+6.5899993E+01	+8.1027969E+01
77.0	19	+8.4942535E+01	+6.9837817E+00	+9.6299987E+01	+6.9459991E+01	+8.1055694E+01
78.0	29	+8.3215621E+01	+5.0936395E+00	+9.1449996E+01	+7.4599990E+01	+8.1083419E+01
79.0	17	+9.0724609E+01	+1.1623707E+01	+1.0729998E+02	+7.5119995E+01	+8.1111145E+01
80.0	36	+7.5745712E+01	+7.5957475E+00	+8.9399993E+01	+6.1099990E+01	+8.1138870E+01
81.0	26	+7.5976806E+01	+7.6764801E+00	+8.7099990E+01	+5.5299987E+01	+8.1166595E+01
82.0	15	+8.8485244E+01	+6.1514958E+00	+9.8599990E+01	+7.8699996E+01	+8.1194320E+01
83.0	33	+8.1082916E+01	+7.2366760E+00	+9.4659988E+01	+6.4500000E+01	+8.1222045E+01
84.0	42	+8.6194835E+01	+8.1796871E+00	+1.0600000E+02	+6.7239990E+01	+8.1249771E+01
85.0	18	+8.6204879E+01	+8.6688603E+00	+9.4759994E+01	+6.4239990E+01	+8.1277496E+01
86.0	22	+7.7230361E+01	+9.7165916E+00	+9.4719985E+01	+6.3000000E+01	+8.1305236E+01
87.0	29	+8.3969924E+01	+5.7772462E+00	+9.7539993E+01	+7.3199996E+01	+8.1332962E+01
88.0	32	+8.2632705E+01	+7.6340653E+00	+9.7519989E+01	+6.8829986E+01	+8.1360687E+01
89.0	31	+8.0008895E+01	+7.8229211E+00	+9.5329986E+01	+6.2079986E+01	+8.1388412E+01
90.0	11	+8.0208084E+01	+1.1467175E+01	+9.4000000E+01	+6.5369995E+01	+8.1416137E+01
91.0	9	+7.6204360E+01	+5.8337466E+00	+8.6209991E+01	+7.0219985E+01	+8.1443862E+01
92.0	17	+7.1992843E+01	+5.0883257E+00	+8.0799987E+01	+6.2699996E+01	+8.1471588E+01
93.0	15	+8.0060577E+01	+9.1609782E+00	+9.3049987E+01	+6.8199996E+01	+8.1499313E+01
94.0	13	+8.3571395E+01	+7.6654421E+00	+9.2899993E+01	+6.9799987E+01	+8.1527038E+01
95.0	24	+8.0096130E+01	+6.8316720E+00	+9.3129989E+01	+6.6299987E+01	+8.1554763E+01
96.0	11	+8.8782669E+01	+3.7825149E+00	+9.6500000E+01	+8.5429992E+01	+8.1582489E+01
97.0	6	+7.9348297E+01	+5.9631456E+00	+8.6129989E+01	+7.1250000E+01	+8.1610214E+01
98.0	9	+7.3146606E+01	+2.0215930E+00	+7.6039993E+01	+6.9199996E+01	+8.1637939E+01
99.0	5	+8.2201950E+01	+8.1736401E+00	+9.3000000E+01	+7.2500000E+01	+8.1665664E+01
100.0	2	+8.6500000E+01	+1.2020815E+01	+9.5000000E+01	+7.8000000E+01	+8.1693389E+01
101.0	10	+7.0654907E+01	+1.0235895E+01	+9.3909988E+01	+5.9539993E+01	+8.1721115E+01
102.0	3	+6.9856652E+01	+2.1884838E+00	+7.2159988E+01	+6.7789993E+01	+8.1748840E+01
103.0	2	+8.8000000E+01	+2.8284271E+00	+9.0000000E+01	+8.6000000E+01	+8.1776565E+01
104.0	13	+8.2372177E+01	+5.1251430E+00	+8.9939987E+01	+7.2899993E+01	+8.1804290E+01
105.0	9	+8.6852157E+01	+6.4330381E+00	+9.7579986E+01	+7.8539993E+01	+8.1832015E+01
106.0	11	+7.6024444E+01	+9.9640234E+00	+9.4000000E+01	+6.2679992E+01	+8.1859741E+01

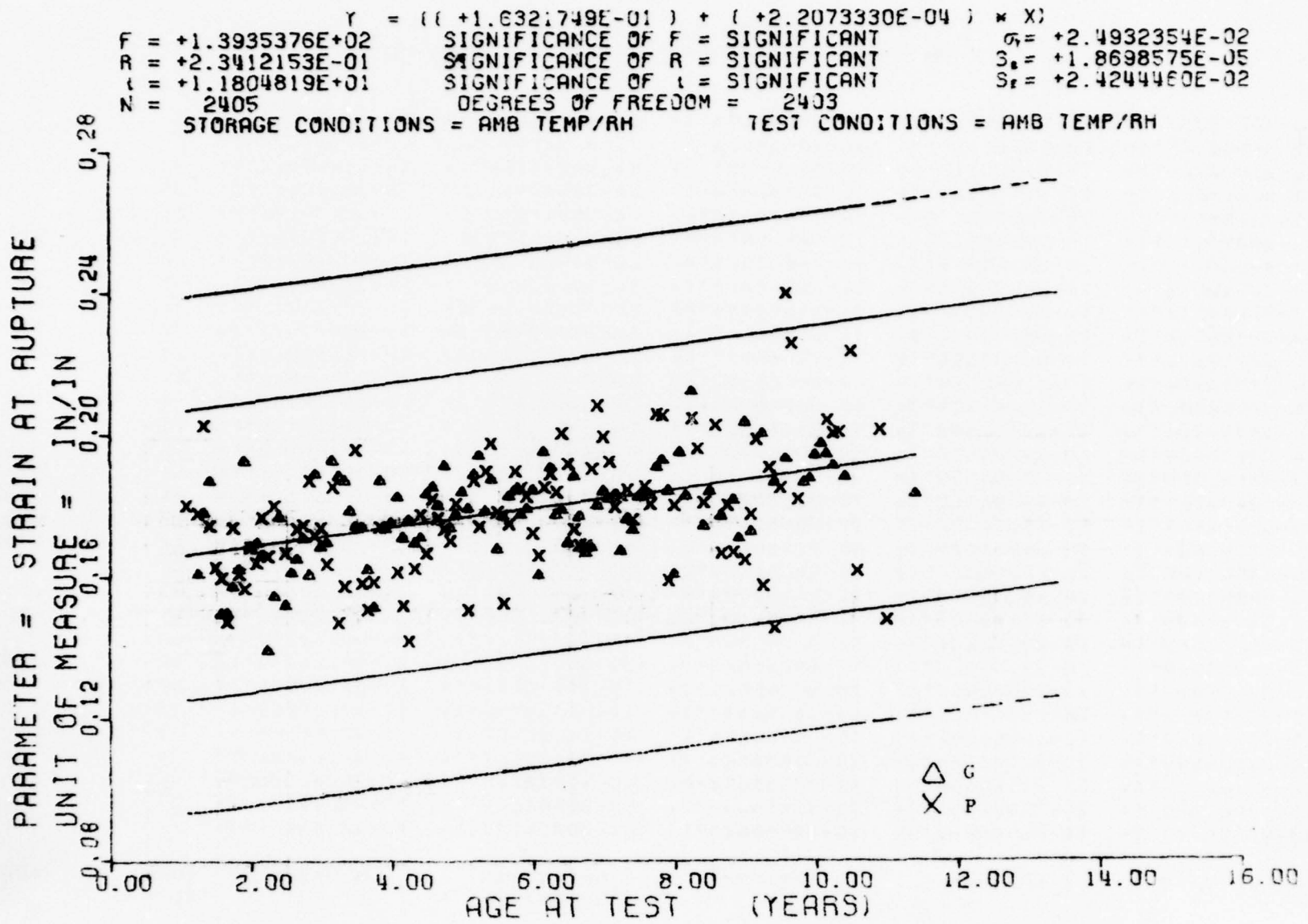
ANB 3066 PROPLLNT (ANB UNLINED, G & P POLYMER) TENSILE MAX STRESS, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
107.0	2	+7.7999984E+01	+8.4689085E-01	+7.8599990E+01	+7.7399993E+01	+8.1887466E+01
108.0	6	+7.8598266E+01	+5.2528251E+00	+8.4389999E+01	+7.1809997E+01	+8.1915191E+01
109.0	14	+6.9454879E+01	+6.0300546E+00	+7.9459991E+01	+6.1989990E+01	+8.1942916E+01
110.0	11	+7.6852645E+01	+8.0280570E+00	+9.2299987E+01	+6.5479995E+01	+8.1970642E+01
111.0	11	+8.1103546E+01	+7.8602677E+00	+9.0979995E+01	+6.7479995E+01	+8.1998382E+01
112.0	6	+8.4594924E+01	+1.1615481E+01	+1.0252999E+02	+7.2969985E+01	+8.2026107E+01
113.0	21	+7.5755126E+01	+8.3237252E+00	+8.5569992E+01	+4.8799987E+01	+8.2053833E+01
114.0	3	+7.6633331E+01	+9.1038266E+00	+8.4199996E+01	+6.6529998E+01	+8.2081558E+01
115.0	6	+8.3001586E+01	+3.4704524E+00	+8.9639999E+01	+8.0399993E+01	+8.2109283E+01
116.0	6	+8.2041534E+01	+6.1798626E+00	+9.2209991E+01	+7.5779998E+01	+8.2137008E+01
117.0	3	+7.5339996E+01	+4.9971951E+00	+7.8279998E+01	+6.9569992E+01	+8.2164733E+01
118.0	7	+7.8035644E+01	+4.2299791E+00	+8.4289993E+01	+7.3919998E+01	+8.2192459E+01
119.0	9	+7.2792144E+01	+1.1957399E+00	+7.4459991E+01	+7.1059997E+01	+8.2220184E+01
120.0	2	+7.7324996E+01	+7.8103512E-02	+7.7389999E+01	+7.7259994E+01	+8.2247909E+01
121.0	9	+8.1381042E+01	+6.2162600E+00	+8.9099990E+01	+7.1939987E+01	+8.2275634E+01
122.0	6	+8.3168243E+01	+5.0123201E+00	+8.8709991E+01	+7.6579986E+01	+8.2303359E+01
123.0	12	+8.4733230E+01	+6.9329271E+00	+9.4019989E+01	+7.4099990E+01	+8.2331085E+01
124.0	6	+8.3243240E+01	+7.2501275E+00	+9.1979995E+01	+7.3059997E+01	+8.2358810E+01
125.0	6	+8.2809936E+01	+2.6774723E+00	+8.6569992E+01	+7.9799987E+01	+8.2386535E+01
126.0	6	+7.3171585E+01	+1.2381426E+01	+9.1099990E+01	+5.9250000E+01	+8.2414260E+01
127.0	3	+9.0096588E+01	+3.3926286E+00	+9.3039993E+01	+8.6389999E+01	+8.2441986E+01
131.0	8	+8.7409912E+01	+6.1024950E+00	+9.5909988E+01	+7.8309997E+01	+8.2552866E+01
132.0	1	+9.3679992E+01	+0.0000000E+23	+9.3679992E+01	+9.3679992E+01	+8.2580612E+01
137.0	1	+6.8000000E+01	+0.0000000E+27	+6.8000000E+01	+6.8000000E+01	+8.2719253E+01

ANB 3266 PROPELLANT (ANB UNLINED, C & P POLYMER) TENSILE MAX STRESS, .0002 IN/MIN



ANB 3066 PROPLLNT (ANB UNLINED, G & P POLYMER) TENSILE STN @ RUPT, .0002 IN/MIN

Figure 4-26

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	7	+1.8035697E-01	+1.0419620E-02	+1.9399994E-01	+1.6829997E-01	+1.6608657E-01
15.0	15	+1.7226630E-01	+1.8327043E-02	+2.0599997E-01	+1.5199995E-01	+1.6652846E-01
16.0	30	+1.9209295E-01	+1.9016196E-02	+2.2399997E-01	+1.6399997E-01	+1.6674917E-01
17.0	15	+1.7625296E-01	+1.1744243E-02	+1.9399994E-01	+1.4999997E-01	+1.6696995E-01
18.0	12	+1.6291642E-01	+2.2963594E-02	+1.9399994E-01	+1.2689995E-01	+1.6719067E-01
19.0	11	+1.5526336E-01	+1.8414152E-02	+1.9599997E-01	+1.3329994E-01	+1.6741138E-01
20.0	21	+1.4870917E-01	+1.1783641E-02	+1.7839998E-01	+1.2559998E-01	+1.6763210E-01
21.0	31	+1.6169959E-01	+2.4511490E-02	+2.0799994E-01	+1.2399995E-01	+1.6785287E-01
22.0	23	+1.6202569E-01	+1.9725423E-02	+2.0599997E-01	+1.2479996E-01	+1.6807359E-01
23.0	10	+1.7485976E-01	+2.0877204E-02	+2.0849996E-01	+1.5299999E-01	+1.6829431E-01
24.0	15	+1.6870635E-01	+1.7220176E-02	+2.0289999E-01	+1.4199995E-01	+1.6851508E-01
25.0	33	+1.6670566E-01	+1.7064438E-02	+2.0199996E-01	+1.4399999E-01	+1.6873580E-01
26.0	27	+1.7354780E-01	+1.9384709E-02	+2.1999996E-01	+1.4239996E-01	+1.6895651E-01
27.0	22	+1.5385407E-01	+1.8593063E-02	+1.9889998E-01	+1.2399995E-01	+1.6917723E-01
28.0	30	+1.6731959E-01	+2.2181957E-02	+2.0999997E-01	+1.2799996E-01	+1.6939800E-01
29.0	12	+1.7676639E-01	+1.5399011E-02	+1.9799995E-01	+1.5199995E-01	+1.6961872E-01
30.0	10	+1.5939974E-01	+1.7129421E-02	+1.8399995E-01	+1.3199996E-01	+1.6983944E-01
31.0	13	+1.6116124E-01	+1.4255979E-02	+1.9399994E-01	+1.3999998E-01	+1.7006021E-01
32.0	21	+1.6835200E-01	+1.6067091E-02	+1.9599997E-01	+1.4399999E-01	+1.7028093E-01
33.0	33	+1.7249047E-01	+1.4692224E-02	+2.0869994E-01	+1.4799994E-01	+1.7050164E-01
34.0	17	+1.7789971E-01	+1.8221263E-02	+2.1199995E-01	+1.5599995E-01	+1.7072242E-01
35.0	20	+1.7790450E-01	+1.9430862E-02	+2.0799994E-01	+1.3759994E-01	+1.7094314E-01
36.0	44	+1.7046546E-01	+1.9420839E-02	+2.1409994E-01	+1.2799996E-01	+1.7116385E-01
37.0	26	+1.6708803E-01	+1.9481163E-02	+2.1199995E-01	+1.2999999E-01	+1.7138457E-01
38.0	33	+1.8968129E-01	+1.6402884E-02	+2.1799999E-01	+1.5299998E-01	+1.7160534E-01
39.0	12	+1.7808306E-01	+2.4213908E-02	+2.0499998E-01	+1.2799996E-01	+1.7182606E-01
40.0	27	+1.7613297E-01	+3.8344764E-02	+3.0599999E-01	+1.1799997E-01	+1.7204678E-01
41.0	22	+1.7872679E-01	+1.1688693E-02	+1.9799995E-01	+1.4799994E-01	+1.7226755E-01
42.0	20	+1.7748463E-01	+1.5714440E-02	+2.1069997E-01	+1.5199995E-01	+1.7248827E-01
43.0	9	+1.7231088E-01	+1.2659257E-02	+1.9299995E-01	+1.5119999E-01	+1.7270898E-01
44.0	25	+1.5532362E-01	+1.9235538E-02	+1.9679999E-01	+1.1399996E-01	+1.7292970E-01

ANB 3066 PROPLLNT (ANB UNLINED, G & P POLYMER) TENSILE STN @ RUPT, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
45.0	20	+1.5686964E-01	+2.2092980E-02	+1.9399994E-01	+1.1999994E-01	+1.7315047E-01
46.0	44	+1.8271321E-01	+2.1218574E-02	+2.3599994E-01	+1.4199995E-01	+1.7337119E-01
47.0	12	+1.7349670E-01	+1.7237205E-02	+1.9769996E-01	+1.4599996E-01	+1.7359191E-01
48.0	20	+1.7503958E-01	+2.0194668E-02	+1.9699996E-01	+1.1799994E-01	+1.7381268E-01
49.0	22	+1.7188596E-01	+2.4555455E-02	+2.3999994E-01	+1.1399996E-01	+1.7403340E-01
50.0	29	+1.5849262E-01	+3.0820543E-02	+2.2399997E-01	+1.0399997E-01	+1.7425411E-01
51.0	57	+1.6100651E-01	+3.0068970E-02	+2.1999996E-01	+9.9999964E-02	+1.7447483E-01
52.0	50	+1.6742753E-01	+1.7781341E-02	+2.1959996E-01	+1.2199997E-01	+1.7469561E-01
53.0	37	+1.7157793E-01	+1.7770688E-02	+2.0039999E-01	+1.3269996E-01	+1.7491632E-01
54.0	19	+1.8073642E-01	+2.3755339E-02	+2.1599996E-01	+1.3689994E-01	+1.7513704E-01
55.0	44	+1.8339735E-01	+2.3732915E-02	+2.2199994E-01	+1.2399995E-01	+1.7535781E-01
56.0	59	+1.7787408E-01	+2.3440449E-02	+2.3299998E-01	+1.0999995E-01	+1.7557853E-01
57.0	46	+1.7475599E-01	+2.0609052E-02	+2.0799994E-01	+1.2719994E-01	+1.7579925E-01
58.0	34	+1.7132306E-01	+1.7440396E-02	+2.0999997E-01	+1.2799996E-01	+1.7601996E-01
59.0	20	+1.7899960E-01	+1.6830866E-02	+2.0799994E-01	+1.5799999E-01	+1.7624074E-01
60.0	20	+1.8389958E-01	+1.6396725E-02	+2.1399998E-01	+1.2999999E-01	+1.7646145E-01
61.0	40	+1.7277705E-01	+2.3499183E-02	+2.1999996E-01	+1.0999995E-01	+1.7668217E-01
62.0	35	+1.8795377E-01	+2.6520363E-02	+2.3179996E-01	+1.0999995E-01	+1.7690294E-01
63.0	45	+1.8076401E-01	+2.7298190E-02	+2.3879998E-01	+1.3119995E-01	+1.7712366E-01
64.0	36	+1.8054950E-01	+1.7006843E-02	+2.1099996E-01	+1.4319998E-01	+1.7734438E-01
65.0	28	+1.9098168E-01	+2.5278450E-02	+2.5000000E-01	+1.5399998E-01	+1.7756515E-01
66.0	28	+1.7329245E-01	+2.8845798E-02	+2.3599994E-01	+1.2999999E-01	+1.7778587E-01
67.0	46	+1.6215610E-01	+3.0929775E-02	+2.1999996E-01	+1.0799998E-01	+1.7800658E-01
68.0	44	+1.7907911E-01	+3.1261886E-02	+2.5999999E-01	+1.1099994E-01	+1.7822730E-01
69.0	32	+1.8545579E-01	+1.5569560E-02	+2.2399997E-01	+1.5799999E-01	+1.7844808E-01
70.0	40	+1.8121457E-01	+2.1388109E-02	+2.6199996E-01	+1.2199997E-01	+1.7866879E-01
71.0	47	+1.8080592E-01	+2.6909214E-02	+2.5399994E-01	+1.0599994E-01	+1.7888951E-01
72.0	24	+1.7831426E-01	+1.7676768E-02	+2.0719999E-01	+1.4329999E-01	+1.7911028E-01
73.0	26	+1.6258037E-01	+1.5802635E-02	+1.9199997E-01	+1.1399996E-01	+1.7933100E-01
74.0	15	+1.9179958E-01	+1.2638456E-02	+2.0699995E-01	+1.6799998E-01	+1.7955172E-01
75.0	30	+1.9006609E-01	+1.7608359E-02	+2.2199994E-01	+1.3999998E-01	+1.7977243E-01

AMR 3166 PROPELLNT (ANB UNLINED, G & P POLYMER) TENSILE STN & RUPT, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
76.0	17	+1.8052309E-01	+9.9617969E-03	+2.0299994E-01	+1.5999996E-01	+1.7959321E-01
77.0	10	+1.9249951E-01	+2.1583039E-02	+2.4599999E-01	+1.6599994E-01	+1.8021392E-01
78.0	28	+1.8233537E-01	+2.4375740E-02	+2.3299998E-01	+1.3679999E-01	+1.8041464E-01
79.0	17	+1.7781144E-01	+2.3929570E-02	+2.2999998E-01	+1.2999999E-01	+1.8065541E-01
80.0	36	+1.7297458E-01	+2.0218982E-02	+2.1599996E-01	+1.2189996E-01	+1.8087613E-01
81.0	26	+1.6733801E-01	+2.3071049E-02	+2.1599996E-01	+1.1099994E-01	+1.8109685E-01
82.0	15	+1.8572640E-01	+1.9253662E-02	+2.2799998E-01	+1.6199994E-01	+1.8131756E-01
83.0	33	+1.9016617E-01	+2.0165094E-02	+2.3999994E-01	+1.6159999E-01	+1.8153834E-01
84.0	42	+1.9268763E-01	+2.2423647E-02	+2.5089997E-01	+1.4959996E-01	+1.8175905E-01
85.0	18	+1.8882179E-01	+1.7738492E-02	+2.0999997E-01	+1.4599996E-01	+1.8197977E-01
86.0	22	+1.8153142E-01	+1.4031314E-02	+2.0519995E-01	+1.4799994E-01	+1.8220055E-01
87.0	29	+1.7754089E-01	+3.2923453E-02	+2.6999998E-01	+1.1279994E-01	+1.8242126E-01
88.0	32	+1.8260896E-01	+3.2464717E-02	+2.6699995E-01	+8.5199952E-02	+1.8264198E-01
89.0	31	+1.7433512E-01	+1.8532494E-02	+2.3039996E-01	+1.2699997E-01	+1.8286269E-01
90.0	11	+1.8250876E-01	+2.3136175E-02	+2.1299999E-01	+1.4999997E-01	+1.8308347E-01
91.0	9	+1.8409967E-01	+1.4430450E-02	+2.1119999E-01	+1.6559994E-01	+1.8330419E-01
92.0	17	+1.8181139E-01	+1.1530091E-02	+1.9799995E-01	+1.4959996E-01	+1.8352490E-01
93.0	15	+2.0067960E-01	+2.9361918E-02	+2.8319996E-01	+1.6799998E-01	+1.8374568E-01
94.0	13	+1.9653046E-01	+2.0113183E-02	+2.2799998E-01	+1.5299999E-01	+1.8396639E-01
95.0	24	+1.7888295E-01	+2.1097116E-02	+2.1519994E-01	+1.4039999E-01	+1.8418711E-01
96.0	11	+1.6947239E-01	+2.2666287E-02	+2.1299999E-01	+1.3439995E-01	+1.8440788E-01
97.0	6	+1.9493323E-01	+1.3899310E-02	+2.1399998E-01	+1.7999994E-01	+1.8462860E-01
98.0	9	+1.8269968E-01	+2.1618974E-02	+2.1119999E-01	+1.6159999E-01	+1.8484932E-01
99.0	5	+2.0611989E-01	+2.8245961E-02	+2.4159997E-01	+1.6899996E-01	+1.8507003E-01
100.0	2	+1.9599997E-01	+5.2326007E-02	+2.3299998E-01	+1.5899997E-01	+1.8529081E-01
101.0	10	+1.7540967E-01	+1.6587961E-02	+2.0239996E-01	+1.5439999E-01	+1.8551152E-01
102.0	3	+1.8393325E-01	+8.7957784E-03	+1.9359999E-01	+1.7639994E-01	+1.8573224E-01
103.0	2	+2.0249992E-01	+1.9091691E-02	+2.1599996E-01	+1.8899995E-01	+1.8595302E-01
104.0	13	+1.7526888E-01	+6.4380754E-03	+1.8939995E-01	+1.6559994E-01	+1.8617373E-01
105.0	9	+1.8013304E-01	+2.7896107E-02	+2.2199994E-01	+1.3679999E-01	+1.8639445E-01
106.0	11	+1.6949063E-01	+5.1342709E-02	+2.5269997E-01	+9.3299984E-02	+1.8661516E-01

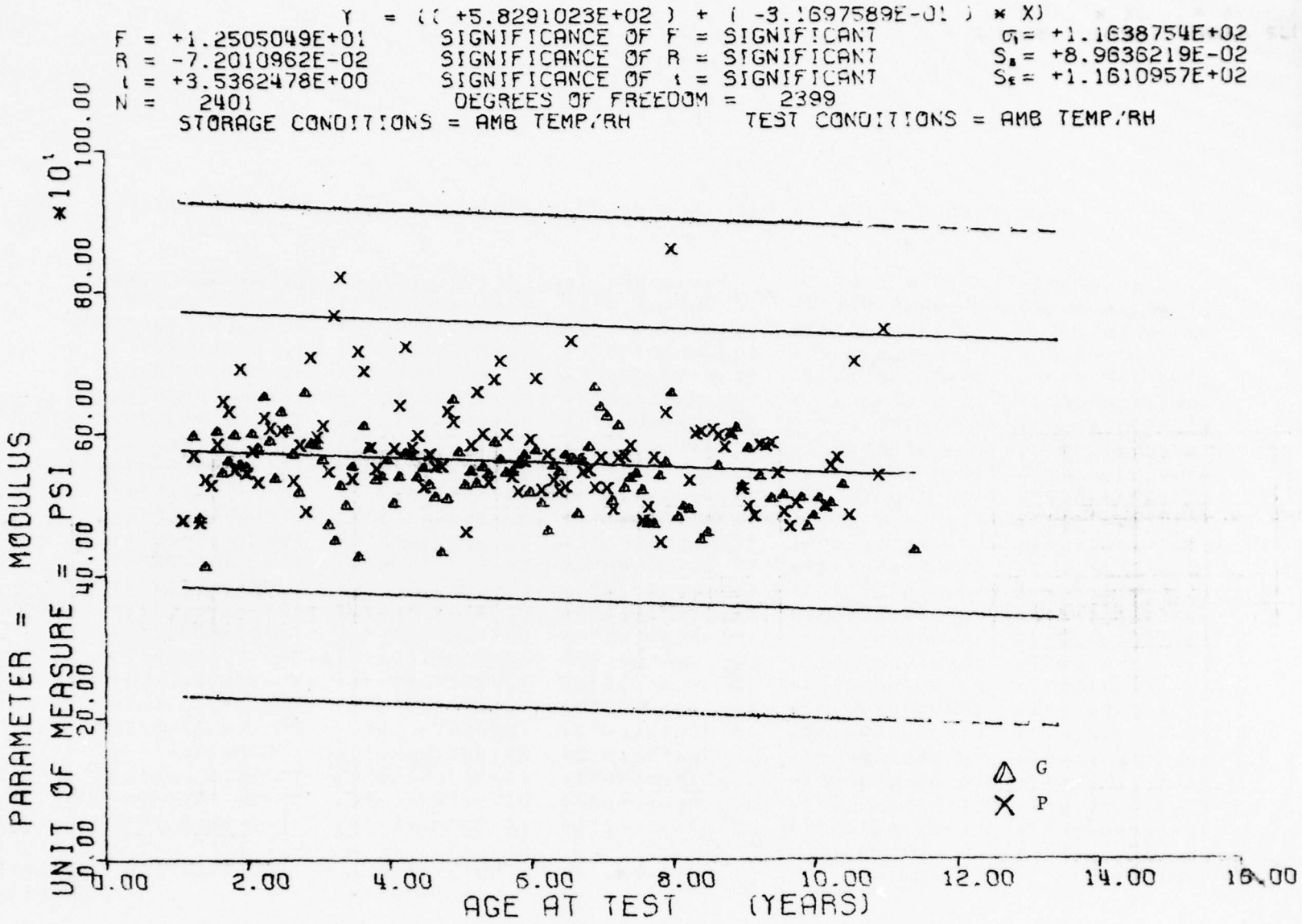
AN3 3266 PROPELLNT (ANB UNLINED, C & P POLYMER) TENSILE STN @ RUPT, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
107.0	2	+1.7059993E-01	+4.8100599E-03	+1.7399996E-01	+1.6719996E-01	+1.8683594E-01
108.0	6	+1.8401652E-01	+2.2092907E-02	+2.0499998E-01	+1.5799999E-01	+1.8705666E-01
109.0	14	+1.7429971E-01	+1.0564348E-02	+1.9599997E-01	+1.5999996E-01	+1.8727737E-01
110.0	11	+1.9871789E-01	+3.2342236E-02	+2.5779998E-01	+1.6239994E-01	+1.8749815E-01
111.0	11	+1.8080884E-01	+3.5774345E-02	+2.2299998E-01	+1.1069995E-01	+1.8771886E-01
112.0	6	+1.9066649E-01	+5.4617228E-02	+2.5219994E-01	+1.1819994E-01	+1.8793958E-01
113.0	21	+1.6897583E-01	+4.1528430E-02	+2.5099998E-01	+8.1999957E-02	+1.8816030E-01
114.0	3	+1.9499994E-01	+4.9507453E-02	+2.3299998E-01	+1.3599997E-01	+1.8838107E-01
115.0	6	+2.1636641E-01	+2.9279800E-02	+2.5999999E-01	+1.9029998E-01	+1.8860179E-01
116.0	6	+2.2569972E-01	+1.5951211E-02	+2.4799996E-01	+2.0439994E-01	+1.8882250E-01
117.0	3	+1.8179994E-01	+3.9222634E-03	+1.8449997E-01	+1.7729997E-01	+1.8904328E-01
118.0	7	+1.8632829E-01	+1.7044378E-02	+2.0889997E-01	+1.6999995E-01	+1.8926399E-01
119.0	9	+1.8741083E-01	+9.7280928E-03	+1.9849997E-01	+1.6799998E-01	+1.8948471E-01
120.0	2	+1.9394999E-01	+4.4369543E-04	+1.9429999E-01	+1.9359999E-01	+1.8970543E-01
121.0	9	+1.9717741E-01	+8.6772273E-03	+2.1099996E-01	+1.8699997E-01	+1.8992620E-01
122.0	6	+1.9916641E-01	+2.0945245E-02	+2.3629999E-01	+1.7869997E-01	+1.9014692E-01
123.0	12	+1.9798302E-01	+2.7904987E-02	+2.5359994E-01	+1.6199994E-01	+1.9036763E-01
124.0	6	+2.0064973E-01	+2.7934156E-02	+2.3499995E-01	+1.5599995E-01	+1.9058841E-01
125.0	6	+1.8783330E-01	+7.0807657E-03	+1.9999998E-01	+1.8099999E-01	+1.9080913E-01
126.0	6	+2.2331649E-01	+5.0069649E-02	+2.8899997E-01	+1.5469998E-01	+1.9102984E-01
127.0	3	+1.6163331E-01	+3.0679355E-02	+1.8419998E-01	+1.2669998E-01	+1.9125062E-01
131.0	8	+2.0136237E-01	+2.3453117E-02	+2.3829996E-01	+1.7099994E-01	+1.9213354E-01
132.0	1	+1.4789998E-01	+0.0000000E+23	+1.4789998E-01	+1.4789998E-01	+1.9235426E-01
137.0	1	+1.8299996E-01	+0.0000000E+27	+1.8299996E-01	+1.8299996E-01	+1.9345790E-01

ANB 3066 PROPLLNT (ANB UNLINED, G & P POLYMER) TENSILE STN @ RUPT, .0002 IN/MIN



ANB 3066 PROPLLNT (ANB UNLINED, G & P POLYMER) TENSILE MODULUS, .0002 IN/MIN

Figure 4-27

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	7	+4.7828564E+02	+3.2273385E+01	+5.1200000E+02	+4.3200000E+02	+5.7878930E+02
14.0	15	+5.7839990E+02	+6.2263036E+01	+6.7300000E+02	+4.9100000E+02	+5.7815551E+02
15.0	30	+4.7746655E+02	+6.4290146E+01	+6.2900000E+02	+3.4400000E+02	+5.7783837E+02
17.0	15	+5.1913330E+02	+7.5913359E+01	+7.1300000E+02	+4.0900000E+02	+5.7752148E+02
18.0	12	+5.2791650E+02	+9.3672018E+01	+7.1900000E+02	+4.2000000E+02	+5.7720458E+02
19.0	11	+5.9345434E+02	+6.0175349E+01	+6.7300000E+02	+4.7100000E+02	+5.7688745E+02
20.0	21	+5.9761889E+02	+7.9331252E+01	+8.1400000E+02	+4.6900000E+02	+5.7657055E+02
21.0	31	+5.7932250E+02	+8.2182474E+01	+7.8500000E+02	+4.4000000E+02	+5.7625366E+02
22.0	23	+5.8778247E+02	+8.7041764E+01	+7.6800000E+02	+4.1200000E+02	+5.7593652E+02
23.0	10	+6.2419995E+02	+8.1443641E+01	+7.0700000E+02	+5.0200000E+02	+5.7561962E+02
24.0	15	+5.5046655E+02	+6.1855669E+01	+6.6000000E+02	+4.6600000E+02	+5.7530273E+02
25.0	33	+5.8778784E+02	+7.2206629E+01	+7.0400000E+02	+4.3700000E+02	+5.7498559E+02
26.0	27	+5.4644433E+02	+6.9916066E+01	+6.7500000E+02	+4.1800000E+02	+5.7466870E+02
27.0	22	+6.3645434E+02	+6.6871395E+01	+7.6000000E+02	+5.2200000E+02	+5.7435180E+02
28.0	30	+5.9863330E+02	+6.4444300E+01	+6.9300000E+02	+3.8700000E+02	+5.7403466E+02
29.0	12	+5.3591650E+02	+7.6623588E+01	+6.2700000E+02	+4.0000000E+02	+5.7371777E+02
30.0	10	+6.1739990E+02	+7.4326905E+01	+7.3600000E+02	+5.1800000E+02	+5.7340087E+02
31.0	13	+6.0500000E+02	+6.8944422E+01	+7.3100000E+02	+5.1600000E+02	+5.7308374E+02
32.0	21	+5.5628564E+02	+4.9645888E+01	+6.3900000E+02	+4.8000000E+02	+5.7276684E+02
33.0	33	+5.4660054E+02	+8.8226604E+01	+7.3600000E+02	+4.0400000E+02	+5.7244995E+02
34.0	17	+5.4994116E+02	+1.0127960E+02	+6.9300000E+02	+4.0000000E+02	+5.7213281E+02
35.0	20	+6.6479980E+02	+2.0543729E+02	+1.3240000E+03	+5.1200000E+02	+5.7181591E+02
36.0	44	+5.8729541E+02	+8.1636141E+01	+7.4600000E+02	+4.1300000E+02	+5.7149902E+02
37.0	26	+5.8319213E+02	+1.0678427E+02	+7.7300000E+02	+4.2100000E+02	+5.7118188E+02
38.0	33	+5.0348461E+02	+6.7692374E+01	+6.6700000E+02	+3.9500000E+02	+5.7086499E+02
39.0	13	+5.2200000E+02	+1.5598931E+02	+8.7200000E+02	+3.8700000E+02	+5.7054809E+02
40.0	27	+6.3492578E+02	+2.1501054E+02	+1.2130000E+03	+4.6000000E+02	+5.7023095E+02
41.0	22	+4.9831811E+02	+4.6054198E+01	+5.6500000E+02	+4.0500000E+02	+5.6991406E+02
42.0	20	+5.5050000E+02	+4.4221333E+01	+6.4600000E+02	+4.6400000E+02	+5.6959716E+02
43.0	9	+4.5888867E+02	+1.3714722E+02	+7.1600000E+02	+3.3600000E+02	+5.6928002E+02
44.0	25	+6.5679980E+02	+1.1186226E+02	+9.6600000E+02	+4.5800000E+02	+5.6896313E+02

AND 3066 PROPELLNT (ANB UNLINED, G & P POLYMER) TENSILE MODULUS, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
45.0	20	+5.8050000E+02	+8.4686729E+01	+7.5200000E+02	+4.5500000E+02	+5.6864624E+02
46.0	44	+5.3988623E+02	+5.1904301E+01	+6.4300000E+02	+4.4900000E+02	+5.6832910E+02
47.0	12	+5.3925000E+02	+3.9055031E+01	+5.7600000E+02	+4.7700000E+02	+5.6801220E+02
48.0	20	+5.6109985E+02	+1.1707617E+02	+9.7400000E+02	+4.7900000E+02	+5.6769531E+02
49.0	22	+5.4022705E+02	+1.0844657E+02	+8.0500000E+02	+4.1700000E+02	+5.6737817E+02
50.0	29	+6.0448266E+02	+1.4666960E+02	+9.4200000E+02	+4.0000000E+02	+5.6706127E+02
51.0	57	+6.3729809E+02	+1.9012551E+02	+1.3460000E+03	+4.3100000E+02	+5.6674438E+02
52.0	50	+5.7073999E+02	+6.2869742E+01	+6.9000000E+02	+4.5300000E+02	+5.6642724E+02
53.0	37	+5.4189184E+02	+6.1328253E+01	+7.1000000E+02	+4.1500000E+02	+5.6611035E+02
54.0	19	+5.4605249E+02	+6.1264883E+01	+6.7800000E+02	+4.5300000E+02	+5.6579345E+02
55.0	44	+5.5220434E+02	+9.5665497E+01	+8.5900000E+02	+4.1300000E+02	+5.6547631E+02
56.0	59	+5.3847436E+02	+8.7368296E+01	+8.4800000E+02	+3.9500000E+02	+5.6515942E+02
57.0	46	+5.4539111E+02	+8.9556308E+01	+7.3600000E+02	+4.1600000E+02	+5.6484252E+02
58.0	35	+5.8848559E+02	+1.0062375E+02	+8.7000000E+02	+4.5300000E+02	+5.6452539E+02
59.0	20	+6.3239990E+02	+8.2873016E+01	+7.6000000E+02	+5.2800000E+02	+5.6420849E+02
60.0	20	+5.7264990E+02	+4.4530622E+01	+6.4000000E+02	+4.7000000E+02	+5.6389160E+02
61.0	49	+5.1144995E+02	+1.1212674E+02	+6.7800000E+02	+1.9700000E+02	+5.6357446E+02
62.0	35	+5.6379980E+02	+9.7291194E+01	+9.4700000E+02	+4.0500000E+02	+5.6325756E+02
63.0	45	+6.1444433E+02	+1.9298063E+02	+1.5150000E+03	+4.4000000E+02	+5.6294067E+02
64.0	36	+5.6050000E+02	+9.1732063E+01	+7.8800000E+02	+3.6700000E+02	+5.6262353E+02
65.0	28	+5.3767846E+02	+7.6896781E+01	+6.7500000E+02	+3.9200000E+02	+5.6230664E+02
66.0	28	+6.3385693E+02	+1.2416169E+02	+8.9500000E+02	+4.5300000E+02	+5.6198974E+02
67.0	46	+6.4671728E+02	+1.4961196E+02	+9.4700000E+02	+4.2400000E+02	+5.6167260E+02
68.0	44	+5.6829541E+02	+1.2326065E+02	+9.6000000E+02	+3.6300000E+02	+5.6135571E+02
69.0	32	+5.4312500E+02	+5.3109594E+01	+6.7100000E+02	+4.5300000E+02	+5.6103881E+02
70.0	40	+5.3644995E+02	+9.4065587E+01	+8.0000000E+02	+4.2200000E+02	+5.6072167E+02
71.0	47	+5.6348925E+02	+1.3605032E+02	+1.0740000E+03	+3.8500000E+02	+5.6040478E+02
72.0	34	+5.5288232E+02	+7.7309203E+01	+7.6600000E+02	+4.1600000E+02	+5.6008789E+02
73.0	24	+6.1633325E+02	+1.1446384E+02	+9.7300000E+02	+4.8700000E+02	+5.5977075E+02
74.0	15	+5.0626660E+02	+9.7847889E+01	+6.7900000E+02	+3.7500000E+02	+5.5945385E+02
75.0	30	+4.9683325E+02	+8.8224276E+01	+7.2000000E+02	+3.7300000E+02	+5.5913696E+02

ANB 3066 PROPLLNT (ANB UNLINED, G & P POLYMER) TENSILE MODULUS, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
76.0	17	+5.4347045E+02	+7.1110932E+01	+6.9200000E+02	+4.5300000E+02	+5.5881982E+02
77.0	19	+5.2726293E+02	+8.0067917E+01	+6.4000000E+02	+4.1300000E+02	+5.5850292E+02
78.0	27	+5.4203696E+02	+7.6645277E+01	+6.9700000E+02	+4.3500000E+02	+5.5818603E+02
79.0	17	+6.8005859E+02	+1.3534099E+02	+9.3300000E+02	+4.0900000E+02	+5.5786889E+02
80.0	36	+5.2436108E+02	+8.6455654E+01	+7.6100000E+02	+3.8200000E+02	+5.5755200E+02
81.0	26	+5.5326904E+02	+9.0964853E+01	+8.2900000E+02	+4.3200000E+02	+5.5723510E+02
82.0	15	+5.5346655E+02	+6.8312168E+01	+6.8000000E+02	+4.6600000E+02	+5.5691796E+02
83.0	33	+6.1181811E+02	+2.5071017E+02	+1.4150000E+03	+4.1600000E+02	+5.5660107E+02
84.0	42	+5.9507128E+02	+1.9119130E+02	+1.4100000E+03	+4.3700000E+02	+5.5628417E+02
85.0	18	+5.5561108E+02	+7.7307741E+01	+6.4000000E+02	+4.2000000E+02	+5.5596704E+02
86.0	22	+4.9886352E+02	+6.9374961E+01	+5.9500000E+02	+3.7800000E+02	+5.5565014E+02
87.0	29	+5.7993090E+02	+1.2074824E+02	+9.5200000E+02	+3.4400000E+02	+5.5533325E+02
88.0	32	+5.5665625E+02	+1.1172189E+02	+8.7100000E+02	+3.0200000E+02	+5.5501611E+02
89.0	30	+5.5523315E+02	+8.7574867E+01	+8.0000000E+02	+4.2200000E+02	+5.5469921E+02
90.0	11	+5.4127270E+02	+8.4657062E+01	+6.6200000E+02	+4.3500000E+02	+5.5438232E+02
91.0	9	+5.0911108E+02	+4.4798003E+01	+6.0600000E+02	+4.7100000E+02	+5.5406518E+02
92.0	17	+4.8129394E+02	+3.6726633E+01	+5.6700000E+02	+4.1300000E+02	+5.5374829E+02
93.0	15	+5.3326660E+02	+6.6359913E+01	+6.3200000E+02	+4.2000000E+02	+5.5343139E+02
94.0	12	+5.1500000E+02	+6.6160960E+01	+6.5900000E+02	+4.0100000E+02	+5.5311425E+02
95.0	24	+5.7100000E+02	+8.9004152E+01	+7.1200000E+02	+4.1700000E+02	+5.5279736E+02
96.0	11	+7.4645434E+02	+2.6197685E+02	+1.3200000E+03	+5.1400000E+02	+5.5248046E+02
97.0	6	+4.8000000E+02	+3.9278492E+01	+5.4200000E+02	+4.3900000E+02	+5.5216333E+02
98.0	9	+4.9488867E+02	+3.1150619E+01	+5.5200000E+02	+4.6200000E+02	+5.5184643E+02
99.0	5	+5.2379980E+02	+1.0263381E+02	+6.6800000E+02	+4.0900000E+02	+5.5152954E+02
100.0	2	+5.9800000E+02	+1.0182337E+02	+6.7000000E+02	+5.2600000E+02	+5.5121240E+02
101.0	9	+4.8244433E+02	+8.9005773E+01	+7.0800000E+02	+3.9600000E+02	+5.5089550E+02
102.0	3	+4.5833325E+02	+1.6165807E+01	+4.7300000E+02	+4.4100000E+02	+5.5057861E+02
103.0	2	+6.0400000E+02	+6.2225396E+01	+6.4800000E+02	+5.6000000E+02	+5.5026147E+02
104.0	13	+5.5815380E+02	+4.5981601E+01	+6.5100000E+02	+4.8300000E+02	+5.4994458E+02
105.0	9	+5.7944433E+02	+9.2918520E+01	+7.2900000E+02	+4.3700000E+02	+5.4962768E+02
106.0	11	+5.9772705E+02	+2.1147439E+02	+1.0280000E+03	+3.4200000E+02	+5.4931054E+02

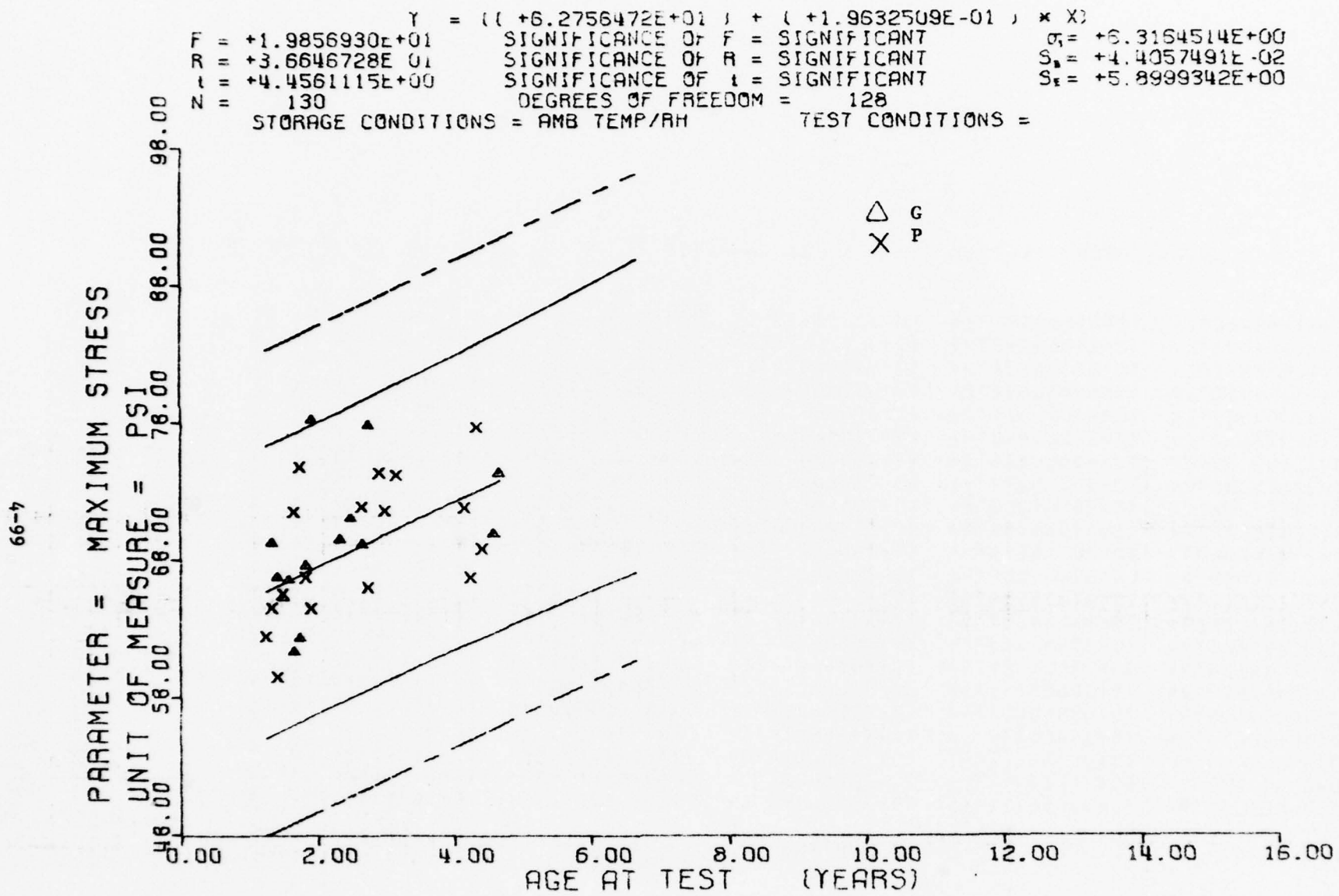
ANB 3066 PROPELLANT (ANB UNLINED, G & P POLYMER) TENSILE MODULUS, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
107.0	2	+6.0550000E+02	+6.5760930E+01	+6.5200000E+02	+5.5900000E+02	+5.4899365E+02
108.0	6	+5.2216650E+02	+1.2750163E+01	+5.3800000E+02	+5.0400000E+02	+5.4867675E+02
109.0	14	+5.4771411E+02	+2.0508888E+02	+1.0540000E+03	+4.1700000E+02	+5.4855561E+02
110.0	11	+4.8254541E+02	+6.5477268E+01	+6.3200000E+02	+3.9400000E+02	+5.4804272E+02
111.0	11	+5.5790893E+02	+9.9059027E+01	+7.7600000E+02	+3.9200000E+02	+5.4772583E+02
112.0	6	+5.9150000E+02	+1.7807947E+02	+8.6900000E+02	+3.7900000E+02	+5.4740869E+02
113.0	21	+5.4009521E+02	+1.0469904E+02	+8.0900000E+02	+4.1900000E+02	+5.4709179E+02
114.0	3	+5.4266650E+02	+1.8941312E+02	+7.4400000E+02	+3.6800000E+02	+5.4677490E+02
115.0	6	+4.9883325E+02	+4.1004471E+01	+5.5600000E+02	+4.4300000E+02	+5.4645776E+02
116.0	6	+4.6700000E+02	+6.2555575E+01	+5.7500000E+02	+3.8800000E+02	+5.4614086E+02
117.0	3	+5.0066650E+02	+3.3080709E+01	+5.2500000E+02	+4.6300000E+02	+5.4582397E+02
118.0	7	+5.0714282E+02	+5.9181721E+01	+5.8700000E+02	+4.4200000E+02	+5.4550683E+02
119.0	9	+4.6666650E+02	+2.2901964E+01	+5.1000000E+02	+4.3800000E+02	+5.4518994E+02
120.0	2	+4.8100000E+02	+0.0000000E+87	+4.8100000E+02	+4.8100000E+02	+5.4487304E+02
121.0	9	+5.0588867E+02	+6.1115555E+01	+6.1900000E+02	+4.3000000E+02	+5.4455590E+02
122.0	6	+4.9400000E+02	+6.9180922E+01	+5.7600000E+02	+4.0500000E+02	+5.4423901E+02
123.0	12	+5.3916650E+02	+7.5052506E+01	+6.6900000E+02	+4.1700000E+02	+5.4392211E+02
124.0	6	+5.6416650E+02	+6.8927256E+01	+6.8500000E+02	+4.9400000E+02	+5.4360498E+02
125.0	6	+5.2500000E+02	+2.6359059E+01	+5.6800000E+02	+4.8600000E+02	+5.4328808E+02
126.0	6	+4.8300000E+02	+1.2959012E+02	+6.9200000E+02	+3.3800000E+02	+5.4297119E+02
127.0	3	+6.9866650E+02	+1.4910510E+02	+8.6500000E+02	+5.7700000E+02	+5.4265405E+02
131.0	8	+5.3875000E+02	+7.4926154E+01	+6.3600000E+02	+4.3800000E+02	+5.4138623E+02
132.0	1	+7.4400000E+02	+0.0000000E+23	+7.4400000E+02	+7.4400000E+02	+5.4106933E+02
137.0	1	+4.3200000E+02	+0.0000000E+27	+4.3200000E+02	+4.3200000E+02	+5.3948437E+02

ANB 3066 PROPLLNT (ANB UNLINED, G & P POLYMER) TENSILE MODULUS, .0002 IN/MIN



ANB 3066 PROPLLNT (ANB LINED G & P POLYMER) TENSILE MAX STRESS, .0002 IN/MIN

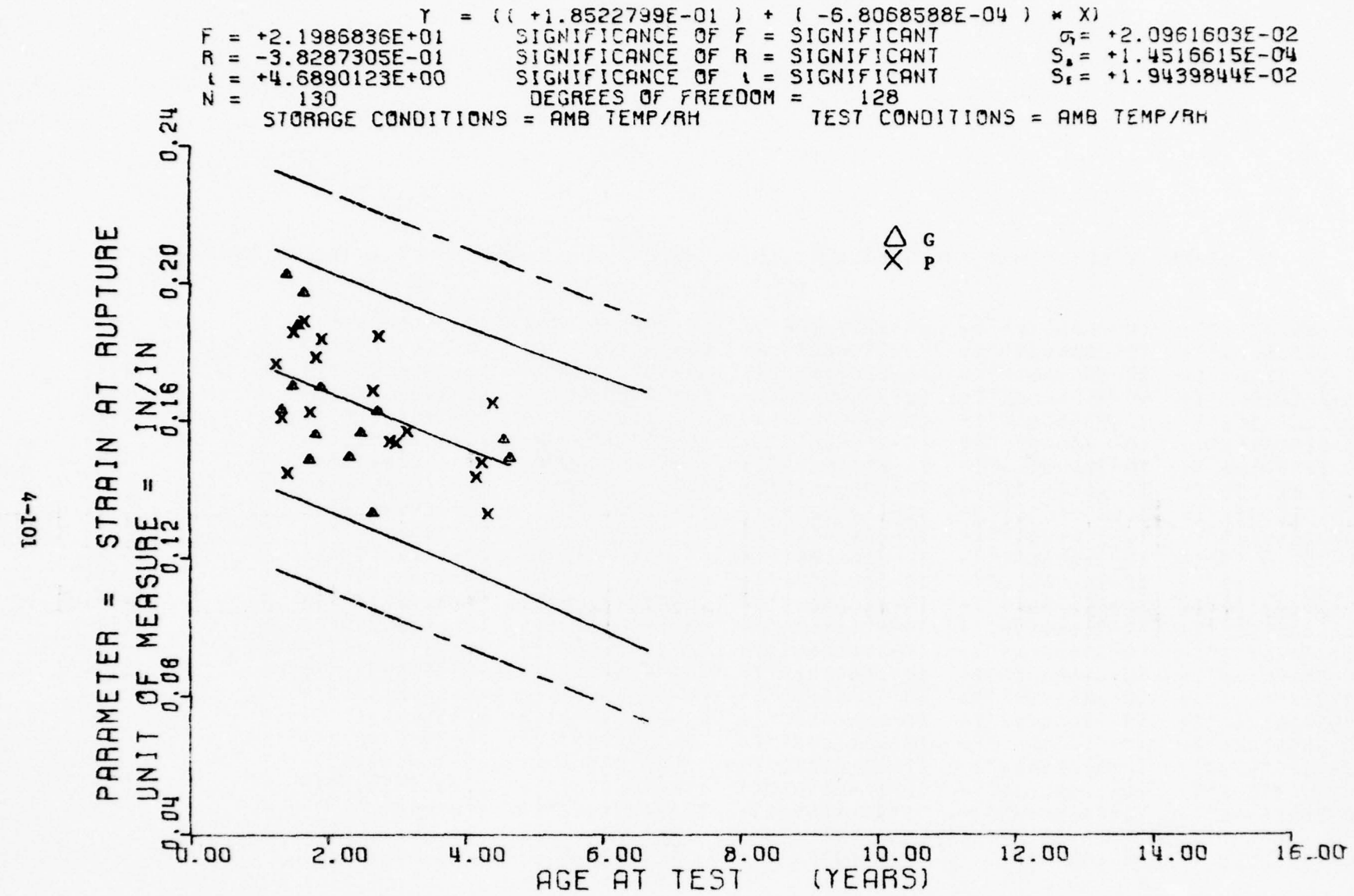
Figure 4-28

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	6	+6.2504913E+01	+8.3971558E+00	+7.0460985E+01	+5.3189987E+01	+6.5701339E+01
16.0	15	+6.5208572E+01	+3.0842392E+00	+7.7729995E+01	+4.4149993E+01	+6.5897659E+01
17.0	6	+6.3159942E+01	+3.7244729E+00	+6.8109985E+01	+5.2399993E+01	+6.6033994E+01
18.0	16	+6.5460510E+01	+6.0159264E+00	+7.6259994E+01	+5.2579986E+01	+6.6290313E+01
19.0	7	+6.5592773E+01	+2.8668732E+00	+7.0529998E+01	+6.1909988E+01	+6.6486648E+01
20.0	6	+6.6458251E+01	+6.0986645E+00	+7.4719985E+01	+5.9539993E+01	+6.6682968E+01
21.0	6	+6.8584960E+01	+8.1871379E+00	+7.7739990E+01	+5.4709991E+01	+6.6879287E+01
22.0	12	+6.6993240E+01	+2.3417498E+00	+6.9769989E+01	+6.1739990E+01	+6.7075622E+01
23.0	9	+6.9102127E+01	+7.3574457E+00	+7.9669998E+01	+6.1979995E+01	+6.7271942E+01
28.0	6	+6.9511627E+01	+3.0335580E+00	+7.3119995E+01	+6.6459991E+01	+6.8253570E+01
30.0	6	+7.1044952E+01	+5.1315521E+00	+7.6279998E+01	+6.5329986E+01	+6.8646224E+01
32.0	6	+7.0834942E+01	+2.6507938E+00	+7.4229995E+01	+6.7699996E+01	+6.9038864E+01
33.0	6	+7.1943267E+01	+6.6006662E+00	+7.9019989E+01	+6.4409988E+01	+6.9235198E+01
35.0	3	+7.4373321E+01	+3.7863253E+00	+7.8099990E+01	+7.0529998E+01	+6.9627838E+01
36.0	3	+7.1596649E+01	+4.8447194E+00	+7.7189987E+01	+6.8699996E+01	+6.9824172E+01
38.0	1	+7.4199996E+01	+0.0000000E+91	+7.4199996E+01	+7.4199996E+01	+7.0216812E+01
50.0	3	+7.1833312E+01	+3.2078970E+00	+7.4959991E+01	+6.8549987E+01	+7.2572723E+01
51.0	2	+6.6749984E+01	+9.8287130E+00	+7.3699996E+01	+5.9799987E+01	+7.2769042E+01
52.0	1	+7.7699996E+01	+0.0000000E+03	+7.7699996E+01	+7.7699996E+01	+7.2965362E+01
53.0	3	+6.8819992E+01	+2.6153377E+00	+7.1839996E+01	+6.7289993E+01	+7.3161697E+01
55.0	4	+6.9907470E+01	+1.6810187E+00	+7.2299987E+01	+6.8459991E+01	+7.3554351E+01
56.0	3	+7.4319992E+01	+2.4089684E+00	+7.6250000E+01	+7.1619995E+01	+7.3750671E+01

AN8 3066 PROPELNT (AN8 LINED S & P POLYMER) TENSILE MAX STRESS, .0002 IN/MIN



ANB 3066 PROPLLNT (ANB LINED, G & P POLYMER) TENSILE STN @ RUPT, .0002 IN/MIN

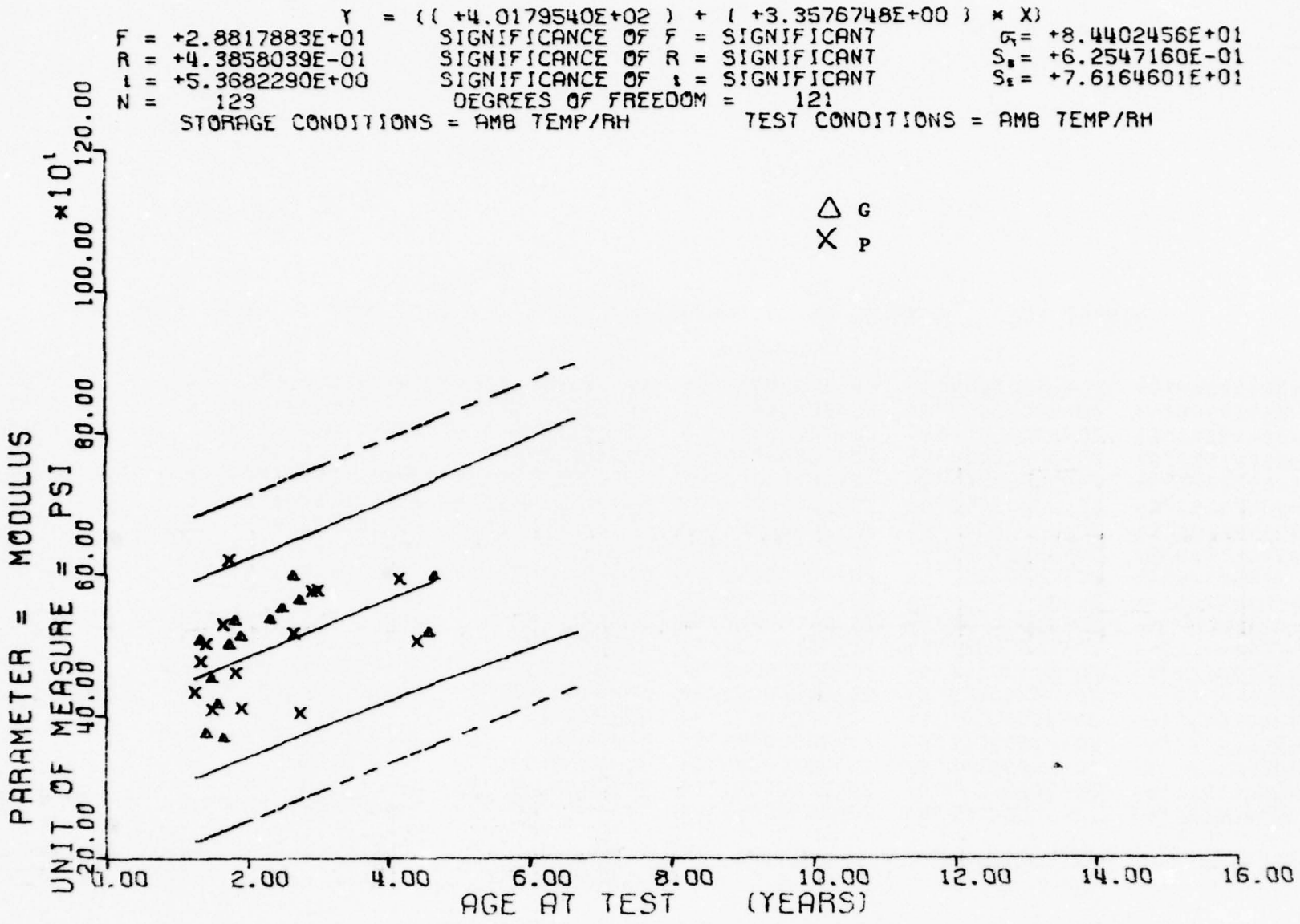
Figure 4-29

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	6	+1.7684984E-01	+2.2687529E-02	+1.9889998E-01	+1.4129996E-01	+1.7501765E-01
16.0	15	+1.6143959E-01	+1.5265309E-02	+1.8949997E-01	+1.3299995E-01	+1.7433696E-01
17.0	6	+1.7389994E-01	+3.1955616E-02	+2.0879995E-01	+1.4099997E-01	+1.7365628E-01
18.0	16	+1.7813086E-01	+2.0952382E-02	+2.1869999E-01	+1.4639997E-01	+1.7297559E-01
19.0	7	+1.8775689E-01	+9.7196640E-03	+2.0339995E-01	+1.7729997E-01	+1.7229491E-01
20.0	6	+1.9319993E-01	+7.3034406E-03	+2.0599997E-01	+1.8669998E-01	+1.7161422E-01
21.0	6	+1.5566658E-01	+1.1286416E-02	+1.6799998E-01	+1.3799995E-01	+1.7093354E-01
22.0	12	+1.7296648E-01	+2.1349542E-02	+2.1099996E-01	+1.4799994E-01	+1.7025285E-01
23.0	9	+1.7225524E-01	+1.3539914E-02	+2.0199996E-01	+1.6649997E-01	+1.6957217E-01
28.0	6	+1.4339993E-01	+6.4276420E-03	+1.5839999E-01	+1.4159995E-01	+1.6616874E-01
30.0	6	+1.5654993E-01	+2.1011330E-02	+1.7999997E-01	+1.3439995E-01	+1.6480737E-01
32.0	6	+1.5104997E-01	+1.9623435E-02	+1.7099997E-01	+1.3079994E-01	+1.6344600E-01
33.0	6	+1.7384988E-01	+1.2733233E-02	+1.8899995E-01	+1.6109997E-01	+1.6276532E-01
35.0	3	+1.5406662E-01	+2.4149353E-02	+1.6889995E-01	+1.2619996E-01	+1.6140395E-01
36.0	3	+1.5359997E-01	+1.2928842E-02	+1.6359996E-01	+1.3899999E-01	+1.6072326E-01
38.0	1	+1.5599994E-01	+0.0000000E+91	+1.5699994E-01	+1.5699994E-01	+1.5936189E-01
50.0	3	+1.4369994E-01	+8.6463720E-03	+1.5299999E-01	+1.3589996E-01	+1.5119367E-01
51.0	2	+1.4799994E-01	+1.1314241E-02	+1.5599995E-01	+1.3999998E-01	+1.5051299E-01
52.0	1	+1.3299995E-01	+0.0000000E+03	+1.3299995E-01	+1.3299995E-01	+1.4983230E-01
53.0	3	+1.6529995E-01	+1.6627560E-02	+1.8449997E-01	+1.5569996E-01	+1.4915162E-01
55.0	4	+1.5437495E-01	+7.4682704E-03	+1.6199994E-01	+1.4499998E-01	+1.4779025E-01
56.0	3	+1.4939994E-01	+1.3692575E-03	+1.5029996E-01	+1.4759999E-01	+1.4710956E-01

AMM 3066 PROPELLNT (ANB LINED, G & P POLYMER) TENSILE STN @ RUPT, .0002 IN/MIN



ANB 3066 PROPLLNT (ANB LINED, G & P POLYMER) TENSILE MODULUS, .0002 IN/MIN

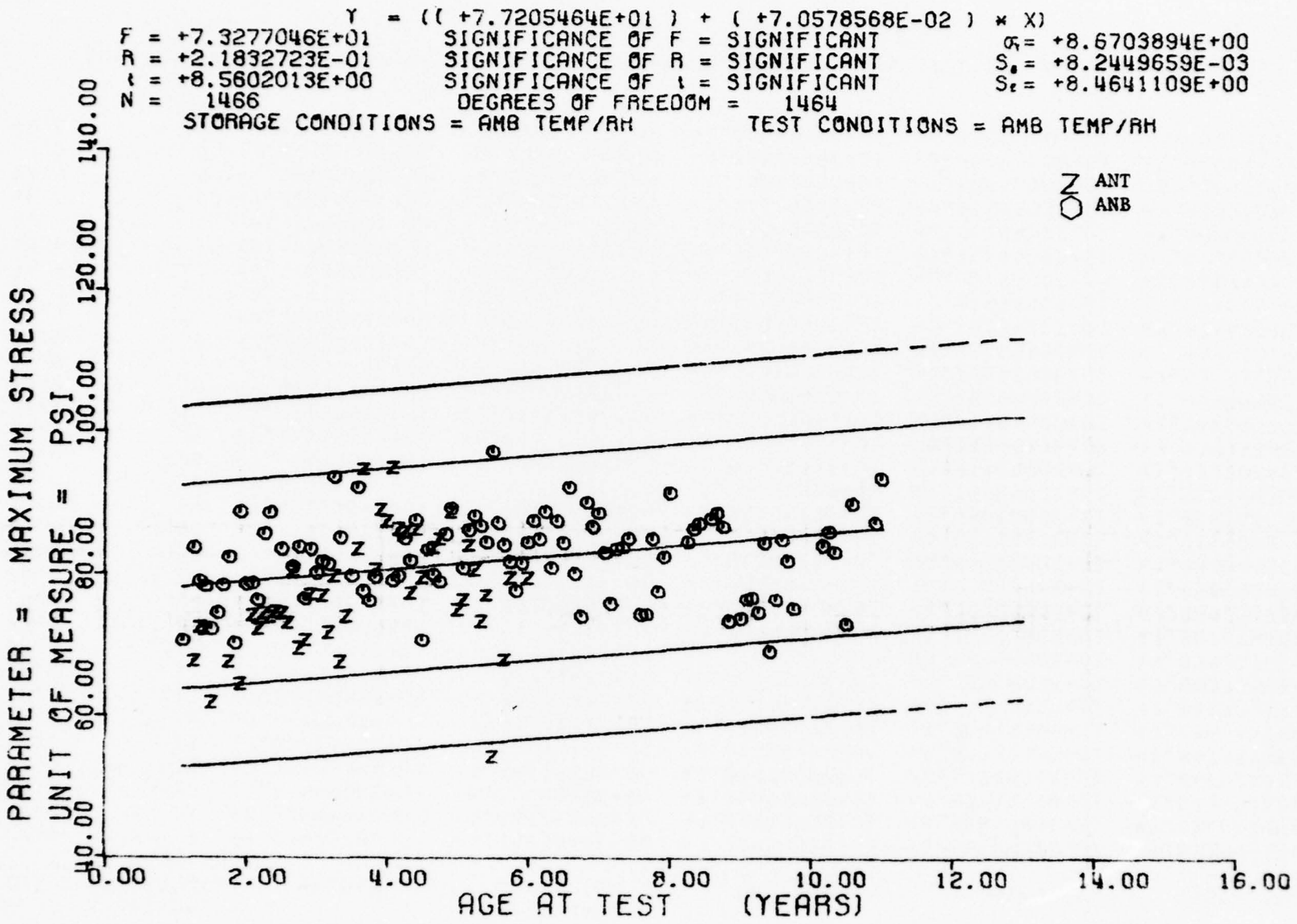
Figure 4-30

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	6	+4.3400000E+02	+1.3856406E+01	+4.5900000E+02	+4.2300000E+02	+4.5216040E+02
16.0	15	+4.8139990E+02	+6.0310861E+01	+5.7600000E+02	+3.6600000E+02	+4.5551806E+02
17.0	4	+4.0725000E+02	+6.4649697E+01	+5.0200000E+02	+3.6400000E+02	+4.5837573E+02
18.0	16	+4.3087500E+02	+7.5185880E+01	+5.5600000E+02	+3.3100000E+02	+4.6223339E+02
19.0	7	+4.1628564E+02	+4.4409887E+01	+4.7200000E+02	+3.5800000E+02	+4.6559106E+02
20.0	6	+4.4900000E+02	+1.1256287E+02	+6.5500000E+02	+3.5600000E+02	+4.6894873E+02
21.0	6	+5.6050000E+02	+7.6808202E+01	+6.2900000E+02	+4.4400000E+02	+4.7230639E+02
22.0	12	+4.7900000E+02	+7.1018563E+01	+5.7000000E+02	+3.7200000E+02	+4.7566406E+02
23.0	9	+4.4466650E+02	+5.8819639E+01	+5.2900000E+02	+3.6200000E+02	+4.7902172E+02
28.0	6	+5.3600000E+02	+4.2703629E+01	+5.8000000E+02	+4.8500000E+02	+4.9581030E+02
30.0	6	+5.5083325E+02	+1.3210059E+02	+6.7500000E+02	+4.2300000E+02	+5.0252563E+02
32.0	6	+5.5666650E+02	+4.5266617E+01	+6.1100000E+02	+5.0800000E+02	+5.0924096E+02
33.0	6	+4.8316650E+02	+8.7793887E+01	+5.7300000E+02	+3.8300000E+02	+5.1259863E+02
35.0	3	+5.7500000E+02	+5.8949130E+01	+6.4100000E+02	+5.2600000E+02	+5.1931396E+02
36.0	3	+5.7733325E+02	+1.3576941E+01	+5.9300000E+02	+5.6900000E+02	+5.2267163E+02
50.0	3	+5.9333325E+02	+1.2662279E+01	+6.0700000E+02	+5.8200000E+02	+5.6967895E+02
53.0	3	+5.0566650E+02	+2.7300793E+01	+5.3700000E+02	+4.8700000E+02	+5.7975195E+02
55.0	3	+5.1766650E+02	+1.3051181E+01	+5.2800000E+02	+5.0300000E+02	+5.8646728E+02
56.0	3	+5.9600000E+02	+2.7784887E+01	+6.1400000E+02	+5.6400000E+02	+5.8982519E+02

ANB 3066 PROPELLANT (ANB LINED, G & P POLYMER) TENSILE MODULUS, .0002 IN/MIN



ANR 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) TENSILE MAX STRESS, .0002 IN/MIN

Figure 4-31

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	7	+7.0747070E+01	+4.1623044E+00	+7.7299987E+01	+6.6439987E+01	+7.8122985E+01
15.0	11	+8.2360839E+01	+6.0682589E+00	+9.0399993E+01	+6.7769989E+01	+7.8264129E+01
16.0	20	+7.8044906E+01	+5.1549873E+00	+8.9899993E+01	+6.9139999E+01	+7.8334716E+01
17.0	15	+7.7547897E+01	+6.4547030E+00	+8.8299987E+01	+6.6719985E+01	+7.8405288E+01
18.0	15	+7.0221237E+01	+7.6059718E+00	+8.6399993E+01	+5.9099990E+01	+7.8475875E+01
19.0	6	+7.4619903E+01	+2.4959304E+00	+7.8799987E+01	+7.2599990E+01	+7.8546447E+01
20.0	11	+7.8478088E+01	+4.7573785E+00	+8.5349990E+01	+6.9609985E+01	+7.8617034E+01
21.0	11	+7.8429901E+01	+7.3211498E+00	+8.4519989E+01	+6.7059997E+01	+7.8687606E+01
22.0	5	+7.0319961E+01	+3.1365726E+00	+7.4599990E+01	+6.7099990E+01	+7.8758178E+01
23.0	8	+7.9709960E+01	+1.2663632E+01	+9.1099990E+01	+6.4019989E+01	+7.8828765E+01
24.0	4	+7.8579956E+01	+1.7070925E+00	+8.1000000E+01	+7.7000000E+01	+7.8899337E+01
25.0	20	+7.8138900E+01	+6.1005143E+00	+8.6809997E+01	+6.8919998E+01	+7.8969924E+01
26.0	36	+7.4474075E+01	+6.5183992E+00	+9.0109985E+01	+6.5000000E+01	+7.9040496E+01
27.0	45	+7.7531661E+01	+7.5479675E+00	+9.5399993E+01	+6.3299987E+01	+7.9111083E+01
28.0	37	+7.9932586E+01	+9.7084840E+00	+1.0629998E+02	+6.5500000E+01	+7.9181655E+01
29.0	8	+7.4696197E+01	+5.3649253E+00	+8.1269989E+01	+6.7599990E+01	+7.9252243E+01
30.0	20	+7.6745407E+01	+7.6994203E+00	+8.5899993E+01	+5.5199996E+01	+7.9322814E+01
31.0	30	+7.3151565E+01	+6.8952917E+00	+8.2489990E+01	+5.7439987E+01	+7.9393386E+01
32.0	30	+8.0715896E+01	+5.3439344E+00	+9.6339996E+01	+6.8179992E+01	+7.9463973E+01
33.0	19	+8.0154129E+01	+8.8468652E+00	+9.2899993E+01	+6.7529998E+01	+7.9534545E+01
34.0	26	+7.3246795E+01	+6.8941217E+00	+8.3009994E+01	+5.2289993E+01	+7.9605133E+01
35.0	24	+8.0701995E+01	+6.3075912E+00	+9.7429992E+01	+7.0509994E+01	+7.9675704E+01
36.0	16	+8.0181167E+01	+7.0837174E+00	+9.0599990E+01	+6.6329986E+01	+7.9746292E+01
37.0	15	+8.0557922E+01	+6.7694552E+00	+9.1750000E+01	+7.0199996E+01	+7.9816864E+01
38.0	17	+7.9742263E+01	+5.6841277E+00	+8.7399993E+01	+6.8419998E+01	+7.9887435E+01
39.0	6	+8.6834960E+01	+7.7512681E+00	+9.5000000E+01	+7.7969985E+01	+7.9958023E+01
40.0	11	+8.3598098E+01	+7.8365915E+00	+9.2000000E+01	+6.7679992E+01	+8.0028594E+01
41.0	8	+7.4188690E+01	+1.8000392E+00	+7.6119995E+01	+7.1389999E+01	+8.0099182E+01
42.0	3	+7.9809997E+01	+1.0521318E+00	+8.1000000E+01	+7.9000000E+01	+8.0169754E+01
43.0	4	+8.5842468E+01	+4.3373886E+00	+9.2239990E+01	+8.2629989E+01	+8.0240341E+01
44.0	13	+8.1220932E+01	+9.7185359E+00	+1.0035998E+02	+6.1500000E+01	+8.0310913E+01

ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) TENSILE MAX STRESS, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
45.0	15	+7.6226562E+01	+5.3317113E+00	+8.3799987E+01	+6.6799987E+01	+8.0381484E+01
46.0	21	+7.9937530E+01	+7.2991467E+00	+9.3619995E+01	+6.7479995E+01	+8.0452072E+01
47.0	10	+8.9199890E+01	+8.4874856E+00	+9.8439987E+01	+7.6109985E+01	+8.0522644E+01
48.0	6	+8.7496612E+01	+1.2865879E+00	+8.9209991E+01	+8.6109985E+01	+8.0593231E+01
49.0	16	+8.4161773E+01	+1.2511451E+01	+9.8389999E+01	+6.3199996E+01	+8.0663803E+01
50.0	28	+8.1932739E+01	+7.4296257E+00	+9.2399993E+01	+6.5899993E+01	+8.0734390E+01
51.0	28	+8.5214172E+01	+4.8761079E+00	+9.6039993E+01	+7.7199996E+01	+8.0804962E+01
52.0	17	+8.1124008E+01	+5.8874473E+00	+9.5799987E+01	+6.5799987E+01	+8.0875549E+01
53.0	20	+8.6598388E+01	+5.1510427E+00	+9.5039993E+01	+7.7439987E+01	+8.0946121E+01
54.0	13	+7.7572189E+01	+1.0942913E+01	+9.3259994E+01	+5.8799987E+01	+8.1016693E+01
55.0	24	+8.3546188E+01	+5.0205792E+00	+9.5699996E+01	+7.6699996E+01	+8.1087280E+01
56.0	49	+8.0607437E+01	+5.9300628E+00	+9.3259994E+01	+6.6699998E+01	+8.1157852E+01
57.0	52	+8.0023361E+01	+6.8532003E+00	+9.3500000E+01	+6.9500000E+01	+8.1228439E+01
58.0	23	+8.5711639E+01	+5.9182130E+00	+9.5000000E+01	+7.2869995E+01	+8.1299011E+01
59.0	12	+8.9221572E+01	+3.4763200E+00	+9.6199996E+01	+8.4500000E+01	+8.1369598E+01
60.0	3	+7.5003326E+01	+1.0850442E+00	+7.6189987E+01	+7.4059997E+01	+8.1440170E+01
61.0	12	+7.9778213E+01	+1.2560236E+01	+9.4000000E+01	+6.1199996E+01	+8.1510742E+01
62.0	23	+8.5726394E+01	+6.6884889E+00	+9.5599990E+01	+7.0049987E+01	+8.1581329E+01
63.0	33	+8.7589004E+01	+6.4543923E+00	+9.8599990E+01	+7.4000000E+01	+8.1651901E+01
64.0	16	+7.9293029E+01	+1.0077315E+01	+9.7799987E+01	+6.1309997E+01	+8.1722488E+01
65.0	13	+8.2853759E+01	+4.6887134E+00	+8.9199996E+01	+7.6639999E+01	+8.1793060E+01
66.0	18	+9.0187683E+01	+1.7455511E+01	+1.0559999E+02	+5.3849990E+01	+8.1863647E+01
67.0	28	+8.7310607E+01	+7.4849522E+00	+9.7500000E+01	+7.4299987E+01	+8.1934219E+01
68.0	26	+8.0482223E+01	+1.0236257E+01	+1.0029998E+02	+6.0459991E+01	+8.2004806E+01
69.0	10	+8.1090911E+01	+3.1623695E+00	+8.6599990E+01	+7.6539993E+01	+8.2075378E+01
70.0	20	+7.7684906E+01	+8.8956704E+00	+9.3599990E+01	+6.6099990E+01	+8.2145950E+01
71.0	23	+8.1577713E+01	+1.2698729E+01	+1.0539999E+02	+6.8399993E+01	+8.2216537E+01
72.0	20	+8.3794372E+01	+4.7694705E+00	+9.4279998E+01	+7.7179992E+01	+8.2287109E+01
73.0	10	+8.7589904E+01	+5.6764808E+00	+9.6500000E+01	+7.7399993E+01	+8.2357696E+01
74.0	5	+8.5019912E+01	+3.2135109E+00	+8.9299987E+01	+8.1599990E+01	+8.2428268E+01
75.0	10	+8.8879928E+01	+7.0416618E+00	+1.0250000E+02	+8.1899993E+01	+8.2498855E+01

ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) TENSILE MAX STRESS, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
76.0	8	+8.0949951E+01	+4.5146011E+00	+8.9500000E+01	+7.5399993E+01	+8.2569427E+01
77.0	12	+8.7608230E+01	+4.2279051E+00	+9.6299987E+01	+8.1599990E+01	+8.2639999E+01
78.0	16	+8.4507431E+01	+3.8721708E+00	+8.9899993E+01	+7.5369995E+01	+8.2710586E+01
79.0	12	+9.2342407E+01	+1.3520801E+01	+1.0729998E+02	+7.5119995E+01	+8.2781158E+01
80.0	18	+8.0212081E+01	+6.6669509E+00	+8.9399993E+01	+7.0269989E+01	+8.2851745E+01
81.0	10	+7.4216888E+01	+7.8909002E+00	+8.4119995E+01	+5.5299987E+01	+8.2922317E+01
82.0	12	+9.0249893E+01	+5.3100063E+00	+9.8599990E+01	+8.1399993E+01	+8.2992904E+01
83.0	12	+8.6787384E+01	+4.1935121E+00	+9.4659988E+01	+7.7599990E+01	+8.3063476E+01
84.0	24	+8.8729888E+01	+7.0102647E+00	+1.0600000E+02	+7.9209991E+01	+8.3134063E+01
85.0	12	+8.3169876E+01	+9.1552288E+00	+9.4099990E+01	+6.4239990E+01	+8.3204635E+01
86.0	9	+7.6021011E+01	+4.8528383E+00	+8.4899993E+01	+6.9799987E+01	+8.3275207E+01
87.0	19	+8.3685211E+01	+6.5969502E+00	+9.7539993E+01	+7.3199996E+01	+8.3345794E+01
88.0	25	+8.3972702E+01	+7.7686135E+00	+9.7519989E+01	+6.8829986E+01	+8.3416366E+01
89.0	13	+8.5192169E+01	+6.3294807E+00	+9.5329986E+01	+7.4679992E+01	+8.3486953E+01
91.0	2	+7.4500000E+01	+7.0710678E-01	+7.5000000E+01	+7.4000000E+01	+8.3628112E+01
92.0	7	+7.4525665E+01	+4.6426899E+00	+7.7979995E+01	+6.4739990E+01	+8.3698684E+01
93.0	10	+8.5220916E+01	+6.4264478E+00	+9.3049987E+01	+7.4979995E+01	+8.3769256E+01
94.0	4	+7.7774963E+01	+7.9545742E+00	+8.6199996E+01	+6.9799987E+01	+8.3839843E+01
95.0	5	+8.2637939E+01	+4.5410274E+00	+8.9500000E+01	+7.6819992E+01	+8.3910415E+01
96.0	5	+9.1609954E+01	+4.0274052E+00	+9.6500000E+01	+8.6939987E+01	+8.3981002E+01
99.0	4	+8.4627441E+01	+7.0610128E+00	+9.3000000E+01	+7.7009994E+01	+8.4192733E+01
100.0	2	+8.6500000E+01	+1.2020815E+01	+9.5000000E+01	+7.8000000E+01	+8.4263320E+01
101.0	2	+8.7304992E+01	+9.3408097E+00	+9.3909988E+01	+8.0699996E+01	+8.4333892E+01
103.0	2	+8.8000000E+01	+2.8284271E+00	+9.0000000E+01	+8.6000000E+01	+8.4475051E+01
104.0	2	+8.8804992E+01	+1.6053100E+00	+8.9939987E+01	+8.7669998E+01	+8.4545623E+01
105.0	9	+8.6852157E+01	+6.4330381E+00	+9.7579986E+01	+7.8539993E+01	+8.4616210E+01
106.0	9	+7.3585464E+01	+8.6625471E+00	+8.7309997E+01	+6.2679992E+01	+8.4686782E+01
108.0	3	+7.3999984E+01	+2.0884523E+00	+7.5969985E+01	+7.1809997E+01	+8.4827941E+01
109.0	5	+7.6671920E+01	+2.3890627E+00	+7.9459991E+01	+7.2979995E+01	+8.4898513E+01
110.0	11	+7.6852645E+01	+8.0285570E+00	+9.2299987E+01	+6.5479995E+01	+8.4969100E+01
111.0	5	+7.4815963E+01	+6.3961829E+00	+8.3419998E+01	+6.7479995E+01	+8.5039672E+01

ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) TENSILE MAX STRESS, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
112.0	6	+8.4594924E+01	+1.1615481E+01	+1.0252999E+02	+7.2969985E+01	+8.5110260E+01
113.0	9	+6.9286529E+01	+8.9053441E+00	+7.7750000E+01	+4.8799987E+01	+8.5180831E+01
114.0	3	+7.6633331E+01	+9.1038266E+00	+8.4199996E+01	+6.6529998E+01	+8.5251419E+01
115.0	3	+8.5049987E+01	+4.1254758E+00	+8.9639999E+01	+8.1649993E+01	+8.5321990E+01
116.0	6	+8.2041534E+01	+6.1798626E+00	+9.2209991E+01	+7.5779998E+01	+8.5392578E+01
117.0	3	+7.5339996E+01	+4.9971951E+00	+7.8279998E+01	+6.9569992E+01	+8.5463150E+01
122.0	3	+8.4193313E+01	+6.6314665E+00	+8.8709991E+01	+7.6579986E+01	+8.5816040E+01
123.0	9	+8.6126571E+01	+7.4528330E+00	+9.4019989E+01	+7.4099990E+01	+8.5886627E+01
124.0	6	+8.3243240E+01	+7.2501275E+00	+9.1979995E+01	+7.3059997E+01	+8.5957199E+01
126.0	6	+7.3171585E+01	+1.2381426E+01	+9.1099990E+01	+5.9250000E+01	+8.6098358E+01
127.0	3	+9.0096588E+01	+3.3926286E+00	+9.3039993E+01	+8.6389999E+01	+8.6168930E+01
131.0	8	+8.7409912E+01	+6.1024950E+00	+9.5909988E+01	+7.8309997E+01	+8.6451248E+01
132.0	1	+9.3679992E+01	+0.0000000E+07	+9.3679992E+01	+9.3679992E+01	+8.6521835E+01

ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) TENSILE MAX STRESS, .0002 IN/MIN

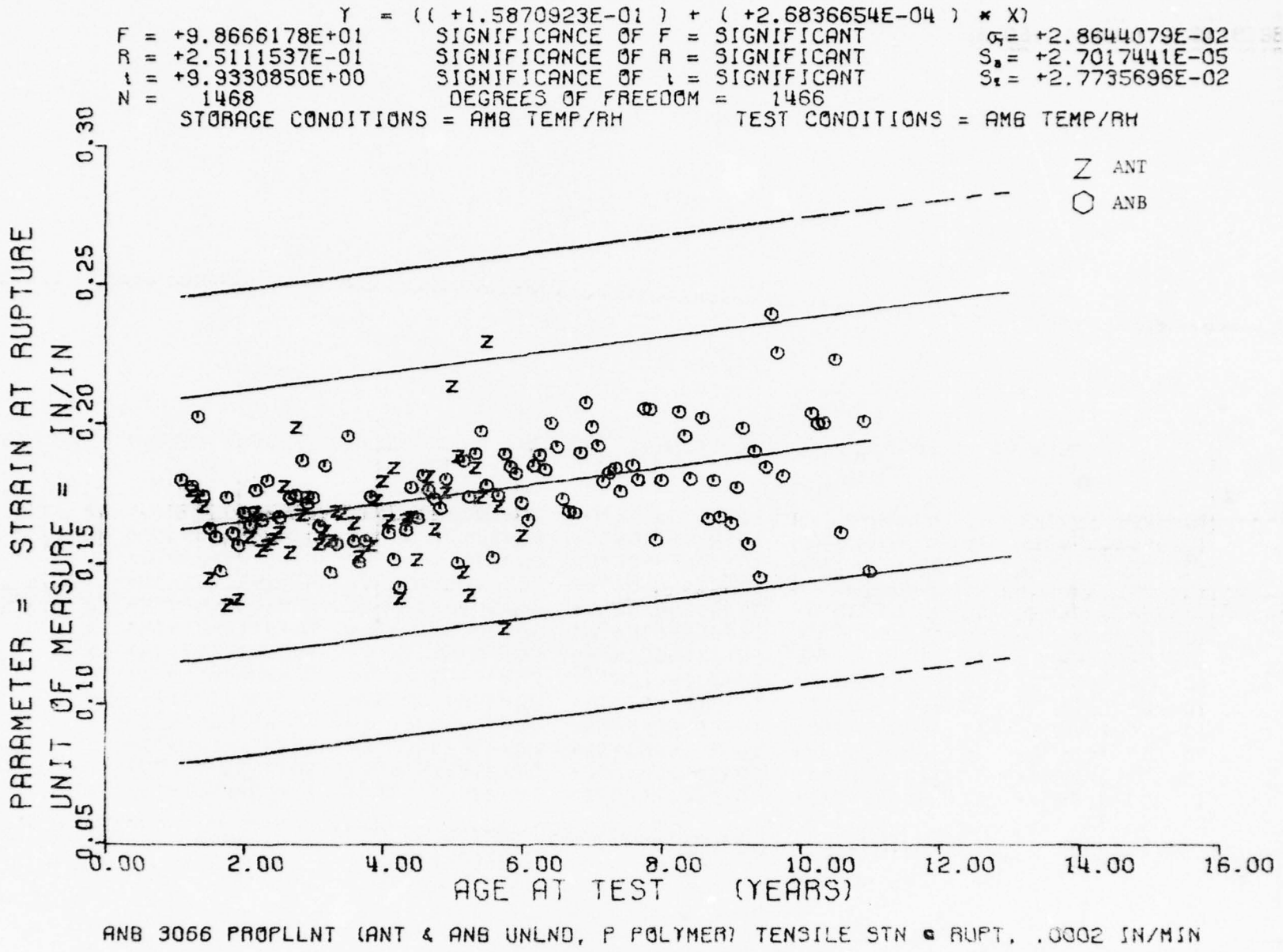

Y = ((+1.5870923E-01) + (+2.6836654E-04) * X)
F = +9.8666178E+01 SIGNIFICANCE OF F = SIGNIFICANT σ = +2.8644079E-02
R = +2.5111537E-01 SIGNIFICANCE OF R = SIGNIFICANT S_a = +2.7017441E-05
t = +9.9330850E+00 SIGNIFICANCE OF t = SIGNIFICANT S_t = +2.7735696E-02
N = 1468 DEGREES OF FREEDOM = 1466
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH
Z ANT
ANB
PARAMETER = STRAIN AT RUPTURE
UNIT OF MEASURE = IN/IN
0.05
0.10
0.15
0.20
0.25
0.30
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) TENSILE STN @ RUPT, .0002 IN/MIN

Figure 4-32

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	7	+1.8035697E-01	+1.0419620E-02	+1.9399994E-01	+1.6829997E-01	+1.6219794E-01
15.0	11	+1.7785418E-01	+1.8786811E-02	+2.0599997E-01	+1.5199995E-01	+1.6273468E-01
16.0	20	+1.9852471E-01	+1.6603121E-02	+2.2399997E-01	+1.6739994E-01	+1.6300308E-01
17.0	15	+1.7407965E-01	+1.0997223E-02	+1.9399994E-01	+1.4999997E-01	+1.6327142E-01
18.0	15	+1.5934628E-01	+2.2826383E-02	+1.9399994E-01	+1.2689995E-01	+1.6353982E-01
19.0	6	+1.5988326E-01	+2.4644519E-02	+1.9599997E-01	+1.3329994E-01	+1.6380816E-01
20.0	11	+1.4759981E-01	+1.1039369E-02	+1.7199999E-01	+1.2559998E-01	+1.6407656E-01
21.0	11	+1.6356337E-01	+3.4039303E-02	+2.0799994E-01	+1.2399995E-01	+1.6434490E-01
22.0	5	+1.6119992E-01	+1.5465868E-02	+1.7199999E-01	+1.3399994E-01	+1.6461324E-01
23.0	8	+1.4982485E-01	+1.0361364E-02	+1.6199994E-01	+1.3439995E-01	+1.6488164E-01
24.0	4	+1.6859996E-01	+2.2947752E-02	+1.9739997E-01	+1.4199995E-01	+1.6514998E-01
25.0	20	+1.6344463E-01	+1.6641213E-02	+1.9759994E-01	+1.4399999E-01	+1.6541838E-01
26.0	36	+1.7306071E-01	+1.5970246E-02	+2.1999996E-01	+1.3799995E-01	+1.6568672E-01
27.0	45	+1.5797507E-01	+1.3394357E-02	+1.9889998E-01	+1.3199996E-01	+1.6595512E-01
28.0	37	+1.6643738E-01	+1.7199347E-02	+2.0999997E-01	+1.4039999E-01	+1.6622346E-01
29.0	8	+1.5924990E-01	+7.3804571E-03	+1.7399996E-01	+1.5039998E-01	+1.6649186E-01
30.0	20	+1.6293960E-01	+1.3727398E-02	+1.8799996E-01	+1.4559996E-01	+1.6676020E-01
31.0	30	+1.7796283E-01	+2.2530510E-02	+2.3449999E-01	+1.4479994E-01	+1.6702854E-01
32.0	30	+1.5947961E-01	+1.3996512E-02	+1.8899995E-01	+1.3079994E-01	+1.6729694E-01
33.0	19	+1.8109959E-01	+2.0357892E-02	+2.0959997E-01	+1.4799994E-01	+1.6756528E-01
34.0	26	+1.7595344E-01	+2.2600602E-02	+2.1199995E-01	+1.1679995E-01	+1.6783368E-01
35.0	24	+1.7296630E-01	+1.5727202E-02	+2.0479995E-01	+1.3759994E-01	+1.6810202E-01
36.0	16	+1.7404347E-01	+2.5574491E-02	+2.1409994E-01	+1.4499998E-01	+1.6837042E-01
37.0	15	+1.6202640E-01	+2.0490154E-02	+2.1199995E-01	+1.2999999E-01	+1.6863876E-01
38.0	17	+1.8145251E-01	+1.8703886E-02	+2.1399998E-01	+1.5359997E-01	+1.6890716E-01
39.0	6	+1.5306657E-01	+1.3075640E-02	+1.6319996E-01	+1.2799996E-01	+1.6917550E-01
40.0	11	+1.5852701E-01	+2.8414459E-02	+1.9999998E-01	+1.1799997E-01	+1.6944384E-01
41.0	8	+1.6814994E-01	+1.2580298E-02	+1.8719995E-01	+1.5119999E-01	+1.6971224E-01
42.0	3	+1.9599992E-01	+1.9998497E-03	+1.9799995E-01	+1.9399994E-01	+1.6998058E-01
43.0	4	+1.6319996E-01	+5.1827129E-03	+1.6879999E-01	+1.5839999E-01	+1.7024898E-01
44.0	19	+1.5125226E-01	+2.0683875E-02	+1.9679999E-01	+1.1399996E-01	+1.7051732E-01

ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) TENSILE STN @ RUPT, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
45.0	15	+1.5865302E-01	+2.0422699E-02	+1.9399994E-01	+1.2500000E-01	+1.7078572E-01
46.0	21	+1.6928541E-01	+1.8912582E-02	+2.0239996E-01	+1.4199995E-01	+1.7105406E-01
47.0	10	+1.7309969E-01	+1.3812203E-02	+1.9079995E-01	+1.5479999E-01	+1.7132246E-01
48.0	6	+1.7991650E-01	+6.7499202E-03	+1.9099998E-01	+1.7299997E-01	+1.7159080E-01
49.0	16	+1.6273093E-01	+2.1204944E-02	+1.9999998E-01	+1.1399996E-01	+1.7185914E-01
50.0	28	+1.6251385E-01	+3.3192132E-02	+2.2399997E-01	+1.0399997E-01	+1.7212754E-01
51.0	28	+1.4158177E-01	+3.1799602E-02	+2.0599997E-01	+9.9999964E-02	+1.7239588E-01
52.0	17	+1.6307616E-01	+2.5322531E-02	+2.1959996E-01	+1.2199997E-01	+1.7266428E-01
53.0	20	+1.6883963E-01	+1.9635654E-02	+2.0059996E-01	+1.3219994E-01	+1.7293262E-01
54.0	13	+1.5516889E-01	+1.8261393E-02	+1.8239998E-01	+1.3069999E-01	+1.7320102E-01
55.0	26	+1.8208414E-01	+2.5043145E-02	+2.2199994E-01	+1.2399995E-01	+1.7346936E-01
56.0	49	+1.7768114E-01	+2.3593952E-02	+2.3299998E-01	+1.0999995E-01	+1.7373776E-01
57.0	52	+1.7172449E-01	+1.9455744E-02	+2.0799994E-01	+1.2719994E-01	+1.7400610E-01
58.0	23	+1.7020827E-01	+2.0157373E-02	+2.0999997E-01	+1.2799996E-01	+1.7427444E-01
59.0	12	+1.7946624E-01	+1.2020084E-02	+1.9399994E-01	+1.6199994E-01	+1.7454284E-01
60.0	3	+2.1369993E-01	+6.2859281E-03	+2.1929997E-01	+2.0689994E-01	+1.7481118E-01
61.0	12	+1.6016626E-01	+3.0279722E-02	+1.9349998E-01	+1.0999995E-01	+1.7507958E-01
62.0	23	+1.7674738E-01	+3.4423736E-02	+2.3179996E-01	+1.0999995E-01	+1.7534792E-01
63.0	33	+1.7095416E-01	+2.8476712E-02	+2.3399996E-01	+1.3119995E-01	+1.7561632E-01
64.0	16	+1.8686205E-01	+2.8830982E-02	+2.1839994E-01	+1.3769996E-01	+1.7588466E-01
65.0	13	+1.9216126E-01	+2.7257617E-02	+2.5000000E-01	+1.6399997E-01	+1.7615300E-01
66.0	18	+1.8683844E-01	+3.9870833E-02	+2.3599994E-01	+1.2999999E-01	+1.7642140E-01
67.0	28	+1.5260678E-01	+3.4945827E-02	+2.1999996E-01	+1.0799998E-01	+1.7668974E-01
68.0	26	+1.7400735E-01	+3.7491512E-02	+2.5999999E-01	+1.1999994E-01	+1.7695814E-01
69.0	10	+1.7096972E-01	+3.4599848E-02	+2.2399997E-01	+1.2369996E-01	+1.7722648E-01
70.0	20	+1.8498951E-01	+2.6880412E-02	+2.6199996E-01	+1.2199997E-01	+1.7749488E-01
71.0	23	+1.8265181E-01	+3.5193766E-02	+2.5399994E-01	+1.0599994E-01	+1.7776322E-01
72.0	20	+1.7054957E-01	+1.7341270E-02	+1.9749999E-01	+1.4329999E-01	+1.7803162E-01
73.0	10	+1.6599977E-01	+2.2882434E-02	+1.9199997E-01	+1.1399996E-01	+1.7829996E-01
74.0	5	+1.8519997E-01	+1.5974771E-02	+2.0599997E-01	+1.6799998E-01	+1.7856830E-01
75.0	10	+1.8899965E-01	+2.5022222E-02	+2.2199994E-01	+1.3999998E-01	+1.7883670E-01

ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) TENSILE STN @ RUPT, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
76.0	8	+1.8387472E-01	+1.0859271E-02	+2.0299994E-01	+1.6999995E-01	+1.7910504E-01
77.0	12	+2.0049965E-01	+2.3405736E-02	+2.4599999E-01	+1.6599994E-01	+1.7937344E-01
78.0	16	+1.9194972E-01	+2.3570380E-02	+2.3299998E-01	+1.4789998E-01	+1.7964178E-01
79.0	12	+1.7348295E-01	+2.7154934E-02	+2.2299998E-01	+1.2999999E-01	+1.7991018E-01
80.0	18	+1.6902184E-01	+2.6831840E-02	+2.1599996E-01	+1.2189996E-01	+1.8017852E-01
81.0	10	+1.6867971E-01	+3.4961165E-02	+2.1599996E-01	+1.1099994E-01	+1.8044692E-01
82.0	12	+1.9016635E-01	+1.8965362E-02	+2.2799998E-01	+1.6799998E-01	+1.8071526E-01
83.0	12	+2.0805799E-01	+2.1316088E-02	+2.3999994E-01	+1.6469997E-01	+1.8098360E-01
84.0	24	+1.9929540E-01	+2.4828079E-02	+2.5089997E-01	+1.5799999E-01	+1.8125200E-01
85.0	12	+1.9234955E-01	+1.8855970E-02	+2.0999997E-01	+1.4599996E-01	+1.8152034E-01
86.0	9	+1.7956638E-01	+1.6055850E-02	+1.9599997E-01	+1.4799994E-01	+1.8178874E-01
87.0	19	+1.8304163E-01	+3.9073263E-02	+2.6999998E-01	+1.1279994E-01	+1.8205708E-01
88.0	25	+1.8446356E-01	+3.6339346E-02	+2.6699995E-01	+8.5199952E-02	+1.8232548E-01
89.0	13	+1.7617672E-01	+2.4117101E-02	+2.3039996E-01	+1.2699997E-01	+1.8259382E-01
91.0	2	+1.8549996E-01	+1.4848543E-02	+1.9599997E-01	+1.7499995E-01	+1.8313056E-01
92.0	7	+1.8039989E-01	+1.5428788E-02	+1.9359999E-01	+1.4959996E-01	+1.8339890E-01
93.0	10	+2.0571964E-01	+3.5314323E-02	+2.8319996E-01	+1.6799998E-01	+1.8366730E-01
94.0	4	+2.0544993E-01	+3.5150674E-02	+2.2799998E-01	+1.5299999E-01	+1.8393564E-01
95.0	5	+1.5891993E-01	+1.4021155E-02	+1.7729997E-01	+1.4039999E-01	+1.8420404E-01
96.0	5	+1.8011993E-01	+2.4303308E-02	+2.1299999E-01	+1.5279996E-01	+1.8447238E-01
99.0	4	+2.0464992E-01	+3.3090953E-02	+2.4159997E-01	+1.6899996E-01	+1.8527752E-01
100.0	2	+1.9599997E-01	+5.2326007E-02	+2.3299998E-01	+1.5899997E-01	+1.8554586E-01
101.0	2	+1.8079996E-01	+3.0546591E-02	+2.0239996E-01	+1.5919995E-01	+1.8581420E-01
103.0	2	+2.0249992E-01	+1.9091691E-02	+2.1599996E-01	+1.8899995E-01	+1.8635094E-01
104.0	2	+1.6639995E-01	+1.1430024E-03	+1.6719996E-01	+1.6559994E-01	+1.8661934E-01
105.0	9	+1.8013304E-01	+2.7896107E-02	+2.2199994E-01	+1.3679999E-01	+1.8688768E-01
106.0	9	+1.6682195E-01	+5.4799081E-02	+2.5269997E-01	+9.3299984E-02	+1.8715608E-01
108.0	3	+1.6469997E-01	+9.9225311E-03	+1.7609995E-01	+1.5799999E-01	+1.8769282E-01
109.0	5	+1.7759996E-01	+1.4257707E-02	+1.9599997E-01	+1.5999996E-01	+1.8796116E-01
110.0	11	+1.9871789E-01	+3.2342236E-02	+2.5779998E-01	+1.6239994E-01	+1.8822950E-01
111.0	5	+1.5747994E-01	+4.1513829E-02	+2.2299998E-01	+1.1069995E-01	+1.8849790E-01

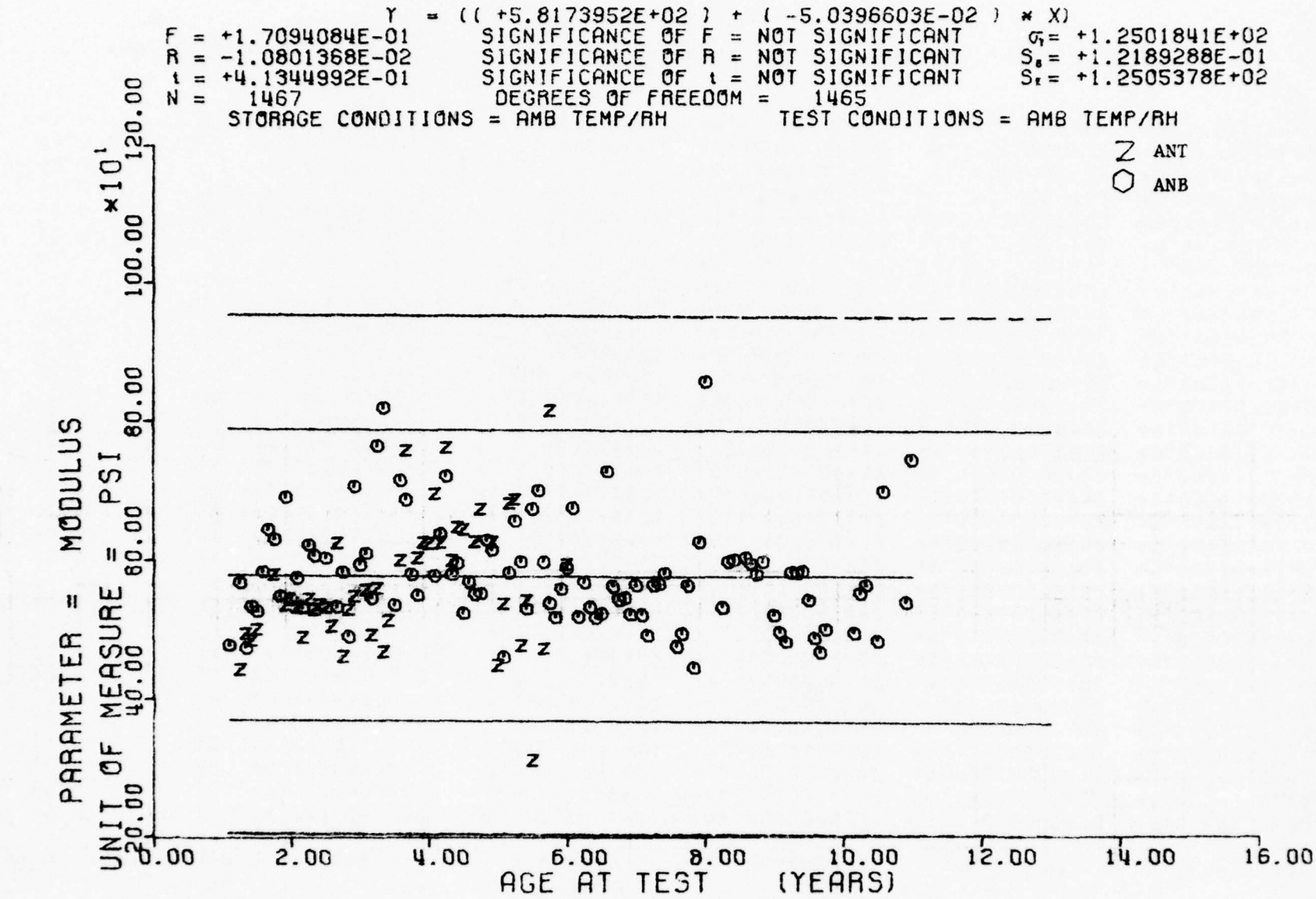
ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) TENSILE STN @ RUPT, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
112.0	6	+1.9066649E-01	+5.4617228E-02	+2.5219994E-01	+1.1819994E-01	+1.8876624E-01
113.0	9	+1.4561098E-01	+5.4226581E-02	+2.5099998E-01	+8.1999957E-02	+1.8903464E-01
114.0	3	+1.8499994E-01	+4.8507453E-02	+2.3299998E-01	+1.3599997E-01	+1.8930298E-01
115.0	3	+2.3976659E-01	+2.2210882E-02	+2.5999999E-01	+2.1599996E-01	+1.8957138E-01
116.0	6	+2.2569972E-01	+1.5951211E-02	+2.4799996E-01	+2.0439994E-01	+1.8983972E-01
117.0	3	+1.8179994E-01	+3.9222634E-03	+1.8449997E-01	+1.7729997E-01	+1.9010812E-01
122.0	3	+2.0399993E-01	+2.9430655E-02	+2.3629999E-01	+1.7869997E-01	+1.9144994E-01
123.0	9	+2.0031088E-01	+3.1968413E-02	+2.5359994E-01	+1.6199994E-01	+1.9171828E-01
124.0	6	+2.0064973E-01	+2.7934156E-02	+2.3499995E-01	+1.5599995E-01	+1.9198668E-01
126.0	6	+2.2331649E-01	+5.0069649E-02	+2.8899997E-01	+1.5469998E-01	+1.9252341E-01
127.0	3	+1.6163331E-01	+3.0679355E-02	+1.8419998E-01	+1.2669998E-01	+1.9279175E-01
131.0	8	+2.0136237E-01	+2.3453117E-02	+2.3829996E-01	+1.7099994E-01	+1.9386523E-01
132.0	1	+1.4789998E-01	+0.0000000E+07	+1.4789998E-01	+1.4789998E-01	+1.9413357E-01

ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) TENSILE STN @ RUPT, .0002 IN/MIN



ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) TENSILE MODULUS, .0002 IN/MIN

Figure 4-33

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	7	+4.7828564E+02	+3.2273385E+01	+5.1200000E+02	+4.3200000E+02	+5.8108422E+02
15.0	11	+5.5200000E+02	+7.4090485E+01	+6.7300000E+02	+4.4400000E+02	+5.8098339E+02
16.0	20	+4.7829980E+02	+5.8602227E+01	+6.2900000E+02	+4.0800000E+02	+5.8093310E+02
17.0	15	+5.2873315E+02	+6.5127859E+01	+7.1300000E+02	+4.4100000E+02	+5.8088256E+02
18.0	15	+5.2279980E+02	+8.5835557E+01	+7.1900000E+02	+4.2000000E+02	+5.8083227E+02
19.0	6	+5.8566650E+02	+8.2814652E+01	+6.7300000E+02	+4.7100000E+02	+5.8078198E+02
20.0	11	+6.4618164E+02	+7.0118211E+01	+8.1400000E+02	+5.6100000E+02	+5.8073144E+02
21.0	11	+6.1809082E+02	+9.5322037E+01	+7.8500000E+02	+5.3900000E+02	+5.8068115E+02
22.0	5	+5.4939990E+02	+6.1561351E+01	+6.5800000E+02	+5.1100000E+02	+5.8063061E+02
23.0	8	+6.3387500E+02	+8.4094228E+01	+7.0700000E+02	+5.0500000E+02	+5.8058032E+02
24.0	4	+5.4525000E+02	+6.7009327E+01	+6.4400000E+02	+4.9500000E+02	+5.8052978E+02
25.0	20	+5.6984985E+02	+8.4658617E+01	+6.8000000E+02	+4.3700000E+02	+5.8047949E+02
26.0	36	+5.1236108E+02	+7.5043664E+01	+6.7500000E+02	+4.0800000E+02	+5.8042919E+02
27.0	45	+5.6651098E+02	+8.3924918E+01	+7.6000000E+02	+4.0300000E+02	+5.8037866E+02
28.0	37	+5.6229711E+02	+7.9195912E+01	+6.9300000E+02	+3.9200000E+02	+5.8032836E+02
29.0	8	+5.3850000E+02	+5.6089214E+01	+5.9700000E+02	+4.4500000E+02	+5.8027783E+02
30.0	20	+5.5125000E+02	+8.8240328E+01	+7.0700000E+02	+3.8100000E+02	+5.8022753E+02
31.0	30	+5.0579980E+02	+5.2074482E+01	+6.2200000E+02	+3.8200000E+02	+5.8017700E+02
32.0	30	+6.0150000E+02	+7.5975381E+01	+8.2200000E+02	+4.8000000E+02	+5.8012670E+02
33.0	19	+5.5242089E+02	+9.6321980E+01	+7.3600000E+02	+4.3300000E+02	+5.8007641E+02
34.0	26	+5.1388452E+02	+7.7096991E+01	+6.8000000E+02	+4.0000000E+02	+5.8002587E+02
35.0	24	+6.3525000E+02	+2.0195484E+02	+1.3240000E+03	+4.4000000E+02	+5.7997558E+02
36.0	16	+5.9518750E+02	+1.0736741E+02	+7.4600000E+02	+4.1300000E+02	+5.7992504E+02
37.0	15	+5.9773315E+02	+1.1965752E+02	+7.7300000E+02	+4.2200000E+02	+5.7987475E+02
38.0	17	+5.3747045E+02	+7.2456122E+01	+6.6700000E+02	+3.9500000E+02	+5.7982421E+02
39.0	6	+6.6383325E+02	+1.2818957E+02	+8.7200000E+02	+5.4200000E+02	+5.7977392E+02
40.0	11	+7.8854541E+02	+2.6981896E+02	+1.2130000E+03	+4.6900000E+02	+5.7972363E+02
41.0	8	+5.1500000E+02	+3.2000000E+01	+5.6200000E+02	+4.7900000E+02	+5.7967309E+02
42.0	3	+5.3633325E+02	+2.8005951E+01	+5.5300000E+02	+5.0400000E+02	+5.7962280E+02
43.0	4	+6.3025000E+02	+6.0040958E+01	+7.1600000E+02	+5.7700000E+02	+5.7957226E+02
44.0	19	+7.0321044E+02	+1.3076041E+02	+9.6600000E+02	+4.5800000E+02	+5.7952197E+02

ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) TENSILE MODULUS, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
45.0	15	+5.8079980E+02	+9.4888807E+01	+7.5200000E+02	+4.5500000E+02	+5.7947143E+02
46.0	21	+5.6595214E+02	+8.3168626E+01	+7.4700000E+02	+4.4200000E+02	+5.7942114E+02
47.0	10	+6.2759985E+02	+1.0916368E+02	+7.5300000E+02	+4.6500000E+02	+5.7937084E+02
48.0	6	+6.2616650E+02	+4.2976350E+01	+6.9600000E+02	+5.8100000E+02	+5.7932031E+02
49.0	16	+6.1600000E+02	+1.2964361E+02	+8.0500000E+02	+4.1700000E+02	+5.7927001E+02
50.0	28	+6.3489282E+02	+1.3604529E+02	+9.4200000E+02	+4.0000000E+02	+5.7921948E+02
51.0	28	+7.2653564E+02	+1.3768872E+02	+9.8600000E+02	+4.5900000E+02	+5.7916918E+02
52.0	17	+5.8352929E+02	+6.5098115E+01	+6.9000000E+02	+4.6200000E+02	+5.7911889E+02
53.0	20	+6.4129980E+02	+9.5979219E+01	+7.9300000E+02	+5.0900000E+02	+5.7906835E+02
54.0	13	+6.1738452E+02	+8.9104375E+01	+7.7000000E+02	+4.8500000E+02	+5.7901806E+02
55.0	26	+5.7003833E+02	+1.0727850E+02	+8.5900000E+02	+4.2700000E+02	+5.7896752E+02
56.0	49	+5.6602026E+02	+9.3977056E+01	+8.4800000E+02	+3.9500000E+02	+5.7891723E+02
57.0	52	+5.7436523E+02	+9.4937446E+01	+7.6000000E+02	+4.1700000E+02	+5.7886669E+02
58.0	23	+6.3065209E+02	+9.7734151E+01	+8.7000000E+02	+4.9200000E+02	+5.7881640E+02
59.0	12	+6.1841650E+02	+6.0952229E+01	+7.3100000E+02	+5.2800000E+02	+5.7876611E+02
60.0	3	+4.4900000E+02	+8.1853527E+00	+4.5600000E+02	+4.4000000E+02	+5.7871557E+02
61.0	12	+4.8033325E+02	+1.6652126E+02	+6.4500000E+02	+1.9700000E+02	+5.7866528E+02
62.0	23	+6.0900000E+02	+1.1288489E+02	+9.4700000E+02	+4.3200000E+02	+5.7861474E+02
63.0	33	+6.6024218E+02	+2.1126982E+02	+1.5150000E+03	+4.4000000E+02	+5.7856445E+02
64.0	16	+5.3043750E+02	+9.1638397E+01	+7.0600000E+02	+4.2400000E+02	+5.7851391E+02
65.0	13	+5.3338452E+02	+6.4850518E+01	+6.3200000E+02	+3.9200000E+02	+5.7846362E+02
66.0	18	+6.1450000E+02	+1.9400341E+02	+8.9500000E+02	+3.0900000E+02	+5.7841333E+02
67.0	28	+7.0128564E+02	+1.5714509E+02	+9.4700000E+02	+4.2400000E+02	+5.7836279E+02
68.0	26	+5.6942285E+02	+1.4090268E+02	+9.6000000E+02	+3.6300000E+02	+5.7831250E+02
69.0	10	+6.2189990E+02	+1.4373157E+02	+8.2800000E+02	+4.7600000E+02	+5.7826196E+02
70.0	20	+5.1739990E+02	+9.1296740E+01	+8.0000000E+02	+4.2200000E+02	+5.7821166E+02
71.0	23	+5.5947802E+02	+1.6999515E+02	+1.0740000E+03	+3.8500000E+02	+5.7816113E+02
72.0	20	+5.9069995E+02	+7.8671937E+01	+7.6600000E+02	+4.6700000E+02	+5.7811083E+02
73.0	10	+6.7589990E+02	+1.5553666E+02	+9.7300000E+02	+4.8700000E+02	+5.7806054E+02
74.0	5	+5.1919995E+02	+5.1698162E+01	+5.8200000E+02	+4.6700000E+02	+5.7801000E+02
75.0	10	+5.6889990E+02	+9.7689360E+01	+7.2000000E+02	+4.4400000E+02	+5.7795971E+02

ANB 3066 PROPELLANT (ANT & ANB UNLND, P POLYMER) TENSILE MODULUS, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
76.0	8	+5.3325000E+02	+4.7179747E+01	+6.0000000E+02	+4.5300000E+02	+5.7790917E+02
77.0	12	+5.1750000E+02	+8.5620197E+01	+6.4000000E+02	+4.1300000E+02	+5.7785888E+02
78.0	16	+5.2412500E+02	+6.7561206E+01	+6.6900000E+02	+4.4400000E+02	+5.7780834E+02
79.0	12	+7.2675000E+02	+1.2985245E+02	+9.3300000E+02	+4.0900000E+02	+5.7775805E+02
80.0	18	+5.6316650E+02	+9.0777199E+01	+7.6100000E+02	+4.1500000E+02	+5.7770776E+02
81.0	10	+5.4409985E+02	+1.1085771E+02	+8.2900000E+02	+4.3300000E+02	+5.7765722E+02
82.0	12	+5.4700000E+02	+7.2859765E+01	+6.8000000E+02	+4.6600000E+02	+5.7760693E+02
83.0	12	+5.2233325E+02	+6.2349941E+01	+6.4100000E+02	+4.5300000E+02	+5.7755639E+02
84.0	24	+5.6508325E+02	+9.0368288E+01	+8.2600000E+02	+4.3700000E+02	+5.7750610E+02
85.0	12	+5.2216650E+02	+7.4072241E+01	+6.4000000E+02	+4.2000000E+02	+5.7745581E+02
86.0	9	+4.9244433E+02	+4.7313082E+01	+5.5100000E+02	+4.0700000E+02	+5.7740527E+02
87.0	19	+5.6468408E+02	+1.4563426E+02	+9.5200000E+02	+3.4400000E+02	+5.7735498E+02
88.0	25	+5.6663989E+02	+1.1222220E+02	+8.7100000E+02	+3.2300000E+02	+5.7730444E+02
89.0	13	+5.8200000E+02	+1.0054518E+02	+8.0000000E+02	+4.2200000E+02	+5.7725415E+02
91.0	2	+4.7600000E+02	+7.0710678E+00	+4.8100000E+02	+4.7100000E+02	+5.7715332E+02
92.0	7	+4.9514282E+02	+1.2785780E+01	+5.1900000E+02	+4.8100000E+02	+5.7710302E+02
93.0	10	+5.6459985E+02	+5.0929581E+01	+6.3200000E+02	+4.7600000E+02	+5.7705249E+02
94.0	3	+4.4533325E+02	+4.1789153E+01	+4.8400000E+02	+4.0100000E+02	+5.7700219E+02
95.0	5	+6.2700000E+02	+5.8898217E+01	+7.1200000E+02	+5.6300000E+02	+5.7695166E+02
96.0	5	+8.5739990E+02	+3.6827544E+02	+1.3200000E+03	+5.1400000E+02	+5.7690136E+02
99.0	4	+5.3200000E+02	+1.1660474E+02	+6.6800000E+02	+4.0900000E+02	+5.7675024E+02
100.0	2	+5.9800000E+02	+1.0182337E+02	+6.7000000E+02	+5.2600000E+02	+5.7669970E+02
101.0	2	+6.0100000E+02	+1.5132065E+02	+7.0800000E+02	+4.9400000E+02	+5.7664941E+02
103.0	2	+6.0400000E+02	+6.2225396E+01	+6.4800000E+02	+5.6000000E+02	+5.7654858E+02
104.0	2	+5.9550000E+02	+3.1819805E+01	+6.1800000E+02	+5.7300000E+02	+5.7649804E+02
105.0	3	+5.7944433E+02	+9.2818520E+01	+7.2900000E+02	+4.3700000E+02	+5.7644775E+02
106.0	9	+5.9777758E+02	+2.3627355E+02	+1.0280000E+03	+3.4200000E+02	+5.7639746E+02
108.0	3	+5.2066650E+02	+9.4516312E+00	+5.2800000E+02	+5.1000000E+02	+5.7629663E+02
109.0	5	+4.9619995E+02	+4.1541545E+01	+5.4500000E+02	+4.3000000E+02	+5.7624609E+02
110.0	11	+4.8254541E+02	+6.5477268E+01	+6.3200000E+02	+3.9400000E+02	+5.7619580E+02
111.0	5	+5.8319995E+02	+1.4635812E+02	+7.7600000E+02	+3.9200000E+02	+5.7614526E+02

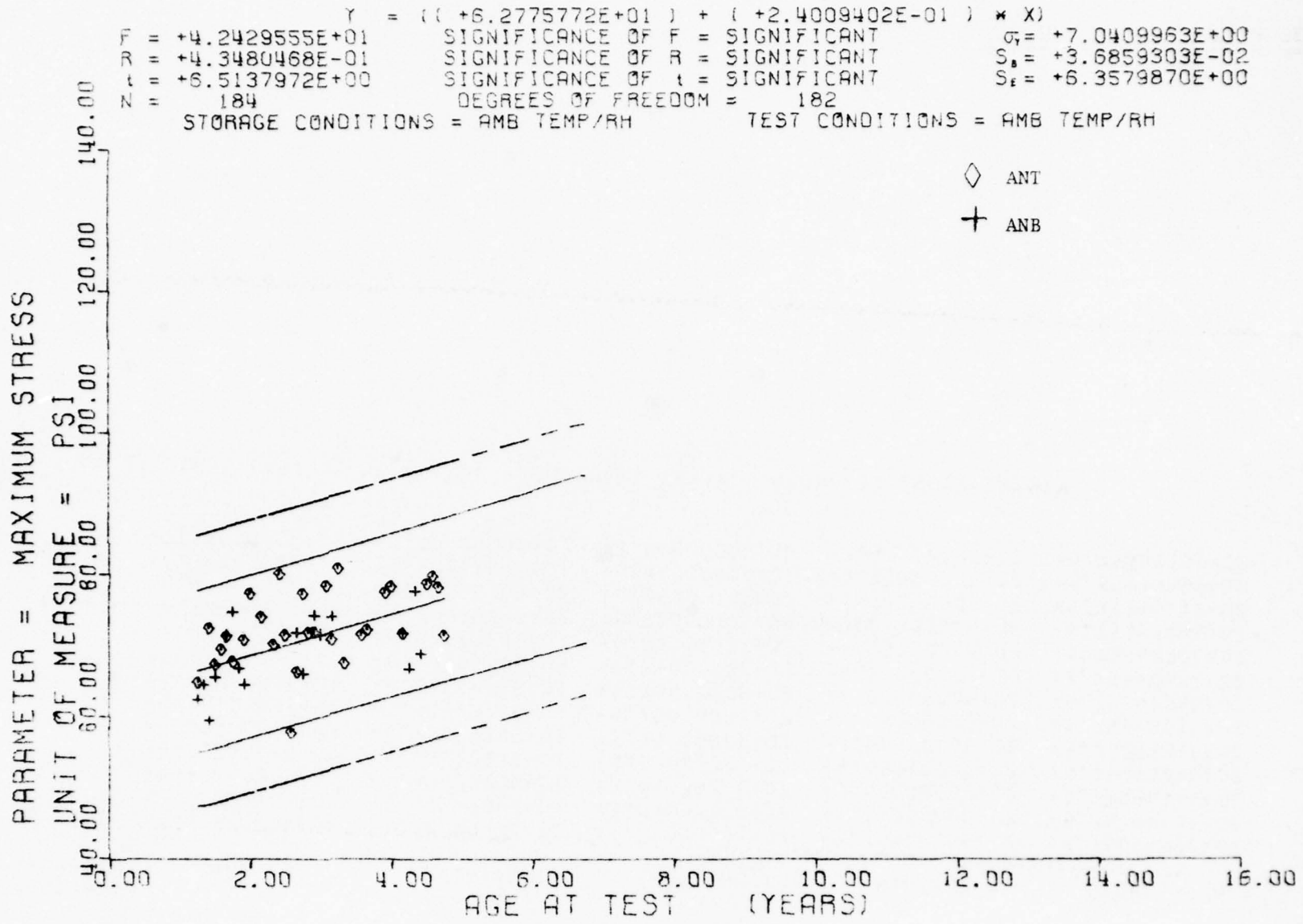
ANB 3066 PROPELLNT (ANT & ANB UNLND, P POLYMER) TENSILE MODULUS, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
112.0	6	+5.8150000E+02	+1.7807947E+02	+8.6900000E+02	+3.7900000E+02	+5.7609497E+02
113.0	9	+5.8522216E+02	+1.4022950E+02	+8.0900000E+02	+4.1900000E+02	+5.7604467E+02
114.0	3	+5.4266650E+02	+1.8941312E+02	+7.4400000E+02	+3.6800000E+02	+5.7599414E+02
115.0	3	+4.8733325E+02	+6.0302017E+01	+5.5600000E+02	+4.4300000E+02	+5.7594384E+02
116.0	6	+4.6700000E+02	+6.2555575E+01	+5.7500000E+02	+3.8800000E+02	+5.7589331E+02
117.0	3	+5.0266650E+02	+3.3080709E+01	+5.2500000E+02	+4.6300000E+02	+5.7584301E+02
122.0	3	+4.9500000E+02	+8.5854528E+01	+5.7600000E+02	+4.0500000E+02	+5.7559106E+02
123.0	9	+5.5244433E+02	+8.1083461E+01	+6.6900000E+02	+4.1700000E+02	+5.7554052E+02
124.0	6	+5.6416650E+02	+6.8927256E+01	+6.8500000E+02	+4.9400000E+02	+5.7549023E+02
126.0	6	+4.8300000E+02	+1.2959012E+02	+6.9200000E+02	+3.3800000E+02	+5.7538940E+02
127.0	3	+6.9866650E+02	+1.4910510E+02	+8.6500000E+02	+5.7700000E+02	+5.7533911E+02
131.0	8	+5.3875000E+02	+7.4926154E+01	+6.3600000E+02	+4.3800000E+02	+5.7513745E+02
132.0	1	+7.4400000E+02	+0.0000000E+07	+7.4400000E+02	+7.4400000E+02	+5.7508715E+02

ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) TENSILE MODULUS, .0002 IN/MIN



ANB 3066 PROPLLNT (ANT & ANB LINED, P POLYMER) TENSILE MAX STRESS, .0002 IN/MIN

Figure 4-34

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	12	+6.3682434E+01	+6.8436837E+00	+7.0529998E+01	+5.3189987E+01	+6.6377182E+01
16.0	13	+6.4583755E+01	+9.5361138E+00	+7.7729995E+01	+4.4149993E+01	+6.6617263E+01
17.0	6	+6.6044921E+01	+8.2365373E+00	+7.4269989E+01	+5.2399993E+01	+6.6857360E+01
18.0	14	+6.6367019E+01	+3.6363567E+00	+7.2259994E+01	+6.1039993E+01	+6.7097457E+01
19.0	3	+6.9566650E+01	+1.2812033E+00	+7.0619995E+01	+6.8139999E+01	+6.7337554E+01
20.0	6	+7.1469924E+01	+2.3362725E+00	+7.4719985E+01	+6.8179992E+01	+6.7577651E+01
21.0	9	+7.0068817E+01	+6.5089083E+00	+7.7739990E+01	+5.8709991E+01	+6.7817733E+01
22.0	9	+6.6781021E+01	+2.5238637E+00	+6.9769989E+01	+6.1739990E+01	+6.8057830E+01
23.0	9	+6.6545477E+01	+3.5366592E+00	+7.1659988E+01	+6.1979995E+01	+6.8297927E+01
24.0	3	+7.7356643E+01	+1.2399162E+00	+7.8359985E+01	+7.5969985E+01	+6.8538024E+01
26.0	3	+7.4033325E+01	+1.9071576E+00	+7.5299987E+01	+7.1839996E+01	+6.9018203E+01
28.0	3	+7.0126647E+01	+1.5080501E+00	+7.1689987E+01	+6.8679992E+01	+6.9498397E+01
29.0	3	+8.0103317E+01	+1.8411269E+00	+8.2219985E+01	+7.8869995E+01	+6.9738494E+01
30.0	6	+7.1486602E+01	+9.1663089E+00	+8.3819992E+01	+6.2239990E+01	+6.9978591E+01
31.0	3	+5.7733322E+01	+2.0791314E+01	+7.0449996E+01	+3.3739990E+01	+7.0218673E+01
32.0	6	+6.9138259E+01	+3.5682941E+00	+7.4229995E+01	+6.4929992E+01	+7.0458770E+01
33.0	6	+7.1711578E+01	+6.3633001E+00	+7.8759994E+01	+6.4409988E+01	+7.0698867E+01
34.0	3	+7.1786651E+01	+9.9662111E-01	+7.2559997E+01	+7.0659988E+01	+7.0938964E+01
35.0	6	+7.3169921E+01	+2.8588746E+00	+7.8099990E+01	+7.0509994E+01	+7.1179061E+01
36.0	3	+7.1596649E+01	+4.8447194E+00	+7.7189987E+01	+6.8699996E+01	+7.1419143E+01
37.0	3	+7.8466644E+01	+8.1946285E-01	+7.8969985E+01	+7.7519989E+01	+7.1659240E+01
38.0	7	+7.1311340E+01	+7.2098909E+00	+7.8079986E+01	+6.3539993E+01	+7.1899337E+01
39.0	3	+8.0859985E+01	+3.7336840E-01	+8.1259994E+01	+8.0519989E+01	+7.2139434E+01
40.0	3	+6.7523315E+01	+1.7958196E+00	+6.8609985E+01	+6.5449996E+01	+7.2379531E+01
43.0	9	+7.1511032E+01	+1.7750930E+00	+7.3809997E+01	+6.9179992E+01	+7.3099807E+01
44.0	3	+7.2226654E+01	+9.4874195E-01	+7.2979995E+01	+7.1159988E+01	+7.3339904E+01
47.0	3	+7.7466659E+01	+2.1928479E+00	+7.9979995E+01	+7.5939987E+01	+7.4060180E+01
48.0	3	+7.8329986E+01	+7.0948980E-01	+7.8769989E+01	+7.7509994E+01	+7.4300277E+01
50.0	6	+7.1733276E+01	+2.6085386E+00	+7.4959991E+01	+6.8549987E+01	+7.4780471E+01
51.0	2	+6.6749984E+01	+9.8287130E+00	+7.3699996E+01	+5.9799987E+01	+7.5020553E+01
52.0	1	+7.7699996E+01	+0.0000000E+51	+7.7699996E+01	+7.7699996E+01	+7.5260650E+01

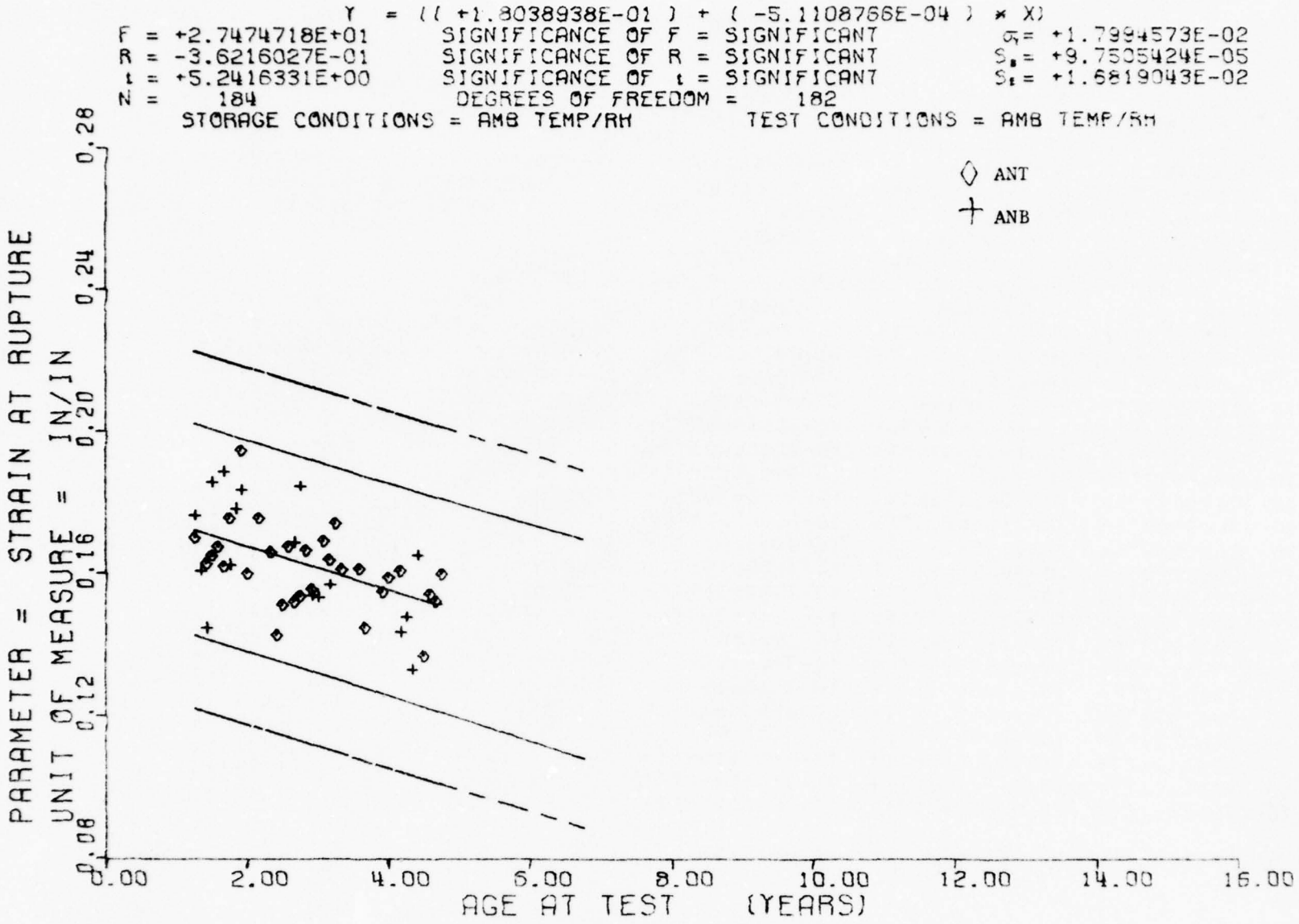
ANB 3066 PROPLENT (ANT & ANB LINED, P POLYMER) TENSILE MAX STRESS, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
53.0	3	+6.8813992E+01	+2.6153377E+00	+7.1839996E+01	+6.7289993E+01	+7.5500747E+01
54.0	3	+7.8683319E+01	+1.4105442E+00	+8.0309997E+01	+7.7799987E+01	+7.5740844E+01
55.0	3	+7.9733322E+01	+1.4273652E+00	+8.0829986E+01	+7.8119995E+01	+7.5980941E+01
56.0	3	+7.8126663E+01	+1.3159144E+00	+8.0289993E+01	+7.6639999E+01	+7.6221023E+01
57.0	3	+7.1373321E+01	+9.8227604E-01	+7.2469985E+01	+7.0569992E+01	+7.6461120E+01

ANB 3066 PROPELLNT (ANT & ANB LINED, P POLYMER) TENSILE MAX STRESS, .0002 IN/MIN



ANB 3066 PROPLLNT (ANT & ANB LINED, P POLYMER) TENSILE STN @ RUPT, .0002 IN/MIN

Figure 4-35

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

X1 (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	12	+1.7351633E-01	+2.2036309E-02	+1.9889998E-01	+1.3599997E-01	+1.7272305E-01
16.0	13	+1.6111510E-01	+1.6410564E-02	+1.8049997E-01	+1.3299995E-01	+1.7221194E-01
17.0	6	+1.5396660E-01	+1.3208413E-02	+1.6559994E-01	+1.4099997E-01	+1.7170083E-01
18.0	14	+1.7709970E-01	+2.3067735E-02	+2.1869999E-01	+1.4639997E-01	+1.7118978E-01
19.0	3	+1.6759993E-01	+6.1568143E-03	+1.7289996E-01	+1.6089999E-01	+1.7067867E-01
20.0	6	+1.7558318E-01	+1.5453465E-02	+1.9379997E-01	+1.5559995E-01	+1.7016762E-01
21.0	9	+1.7142188E-01	+1.5232883E-02	+1.9569998E-01	+1.5469998E-01	+1.6965651E-01
22.0	9	+1.7362200E-01	+2.0851495E-02	+2.1099996E-01	+1.4999997E-01	+1.6914540E-01
23.0	9	+1.8762195E-01	+1.3651356E-02	+2.0529997E-01	+1.7009997E-01	+1.6863435E-01
24.0	3	+1.6309998E-01	+2.4955283E-03	+1.6209995E-01	+1.5729999E-01	+1.6812324E-01
26.0	3	+1.7559994E-01	+1.3908482E-03	+1.7649996E-01	+1.7409998E-01	+1.6710108E-01
28.0	3	+1.6509996E-01	+6.6102383E-03	+1.7289996E-01	+1.5969997E-01	+1.6607892E-01
29.0	3	+1.4283329E-01	+4.9059905E-03	+1.4759999E-01	+1.3779997E-01	+1.6556781E-01
30.0	6	+1.5128326E-01	+1.2319588E-02	+1.6929996E-01	+1.3599997E-01	+1.6505670E-01
31.0	3	+1.6769993E-01	+2.0656898E-02	+1.9089996E-01	+1.5129995E-01	+1.6454565E-01
32.0	6	+1.6149993E-01	+9.8385786E-03	+1.7009997E-01	+1.4649999E-01	+1.6403454E-01
33.0	6	+1.6931658E-01	+1.7642136E-02	+1.8899995E-01	+1.4939999E-01	+1.6352343E-01
34.0	3	+1.6569994E-01	+1.0420559E-02	+1.7419999E-01	+1.5479999E-01	+1.6301238E-01
35.0	6	+1.5481662E-01	+1.5489825E-02	+1.6889995E-01	+1.2619996E-01	+1.6250127E-01
36.0	3	+1.5359997E-01	+1.2928842E-02	+1.6359996E-01	+1.3899999E-01	+1.6199016E-01
37.0	3	+1.6929996E-01	+9.3604663E-03	+1.7889994E-01	+1.6019999E-01	+1.6147911E-01
38.0	7	+1.6294270E-01	+5.7767097E-03	+1.7189997E-01	+1.5699994E-01	+1.6096800E-01
39.0	3	+1.7426663E-01	+2.3238322E-03	+1.7589996E-01	+1.7249995E-01	+1.6045695E-01
40.0	3	+1.6123330E-01	+5.5226477E-03	+1.6719996E-01	+1.5629994E-01	+1.5994584E-01
43.0	3	+1.6142195E-01	+2.0941332E-02	+1.9259995E-01	+1.3379997E-01	+1.5841257E-01
44.0	3	+1.4493328E-01	+1.1631360E-03	+1.4619994E-01	+1.4389997E-01	+1.5790146E-01
47.0	3	+1.5493327E-01	+3.2131604E-03	+1.5859997E-01	+1.5259999E-01	+1.5636825E-01
48.0	3	+1.5893328E-01	+1.0692463E-02	+1.6559994E-01	+1.4659994E-01	+1.5585714E-01
50.0	6	+1.5231662E-01	+1.1963507E-02	+1.6959995E-01	+1.3589996E-01	+1.5483498E-01
51.0	2	+1.4799994E-01	+1.1814241E-02	+1.5599995E-01	+1.3999998E-01	+1.5432387E-01
52.0	1	+1.3299995E-01	+0.0000000E+01	+1.3299995E-01	+1.3299995E-01	+1.5381276E-01

4-124

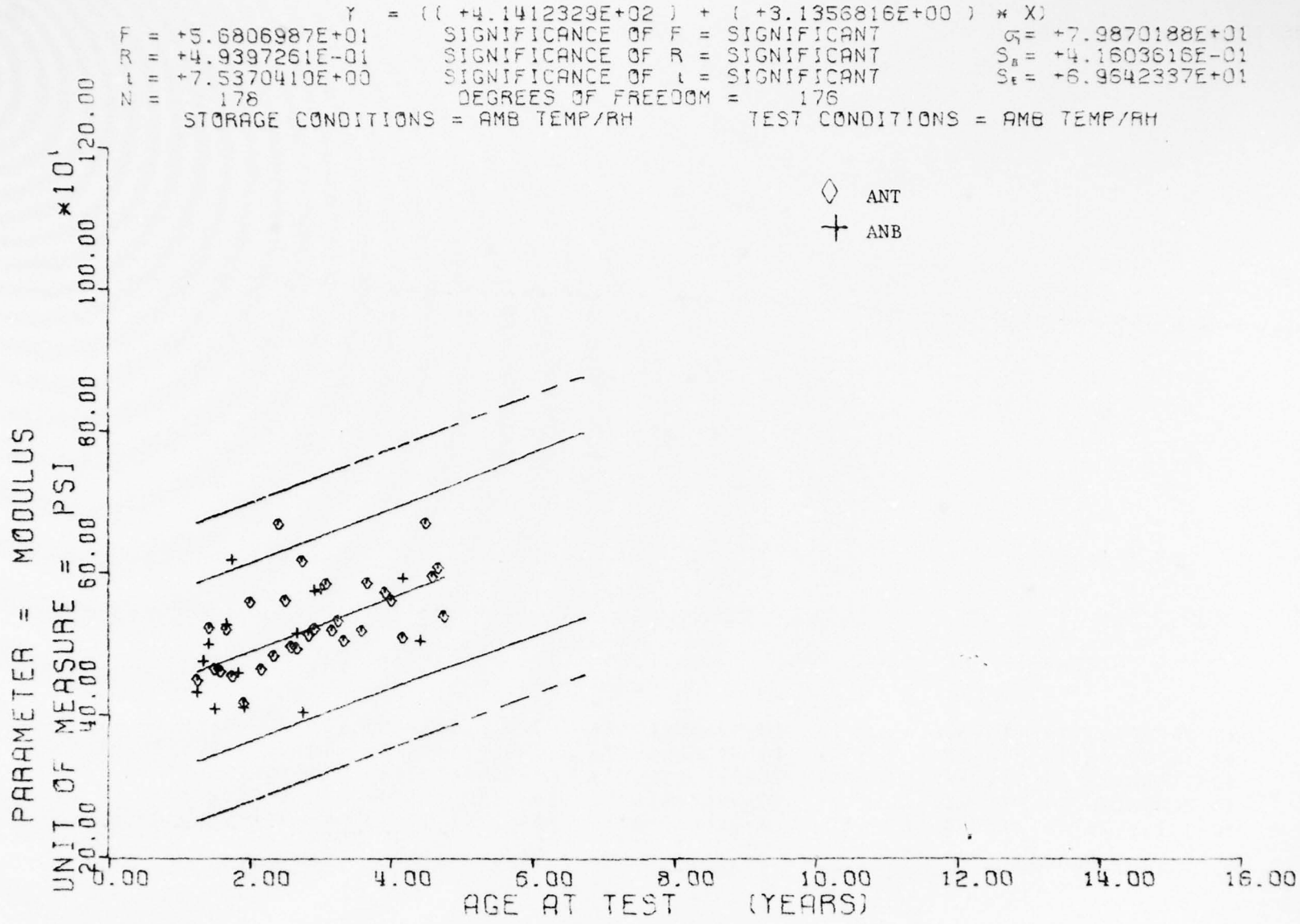
X1= SCAN PROPLENE (ANT & ANN LINED, P POLYMER) TENSILE STN @ RUPT, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
53.0	3	+1.6329995E-01	+1.6627560E-02	+1.8449997E-01	+1.5569996E-01	+1.5330171E-01
54.0	3	+1.3593326E-01	+1.5535174E-02	+1.4959996E-01	+1.1959999E-01	+1.5279060E-01
55.0	3	+1.5426659E-01	+4.1634161E-03	+1.5759998E-01	+1.4959996E-01	+1.5227955E-01
56.0	3	+1.5226662E-01	+2.5147250E-03	+1.5459996E-01	+1.4959996E-01	+1.5176844E-01
57.0	3	+1.5193326E-01	+3.2145308E-03	+1.6359996E-01	+1.5759998E-01	+1.5125733E-01

AMB 3066 PROPELNT (ANT & ANB LINED, P POLYMER) TENSILE STN @ RUPT, .0002 IN/MIN



ANB 3066 PROPLLNT (ANT & ANB LINED, P POLYMER) TENSILE MODULUS, .0002 IN/MIN

Figure 4-36

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	12	+4.4206325E+02	+2.2423438E+01	+4.9000000E+02	+4.2200000E+02	+4.6115844E+02
16.0	13	+4.7753833E+02	+6.4133474E+01	+5.7600000E+02	+3.6600000E+02	+4.6429418E+02
17.0	4	+5.1800000E+02	+1.8850287E+01	+5.4300000E+02	+5.0200000E+02	+4.6742968E+02
18.0	14	+4.3342846E+02	+6.4678749E+01	+5.3900000E+02	+3.5700000E+02	+4.7056542E+02
19.0	3	+4.6266650E+02	+1.6258331E+01	+4.8100000E+02	+4.5000000E+02	+4.7370117E+02
20.0	6	+5.2550000E+02	+7.1957626E+01	+6.5500000E+02	+4.4600000E+02	+4.7683691E+02
21.0	9	+5.1233325E+02	+1.1013627E+02	+6.2900000E+02	+3.5600000E+02	+4.7997241E+02
22.0	9	+4.6077758E+02	+7.1257943E+01	+5.4500000E+02	+3.7200000E+02	+4.8310815E+02
23.0	9	+4.1344433E+02	+3.3279539E+01	+4.5500000E+02	+3.6200000E+02	+4.8624389E+02
24.0	3	+5.6000000E+02	+7.9372539E+00	+5.6900000E+02	+5.5400000E+02	+4.8937963E+02
26.0	3	+4.6566650E+02	+2.0816659E+00	+4.6800000E+02	+4.6400000E+02	+4.9565087E+02
28.0	3	+4.8433325E+02	+8.3266639E+00	+4.9100000E+02	+4.7500000E+02	+5.0192236E+02
29.0	3	+6.6966650E+02	+2.4785748E+01	+6.9200000E+02	+6.4300000E+02	+5.0505786E+02
30.0	6	+5.6216650E+02	+1.2268564E+02	+6.7600000E+02	+4.3900000E+02	+5.0819360E+02
31.0	3	+4.9700000E+02	+1.7058722E+01	+5.1600000E+02	+4.8300000E+02	+5.1132934E+02
32.0	6	+5.0566650E+02	+1.7200775E+01	+5.3100000E+02	+4.8200000E+02	+5.1446508E+02
33.0	6	+5.1083325E+02	+1.1756430E+02	+6.2500000E+02	+3.8300000E+02	+5.1760058E+02
34.0	3	+5.1333325E+02	+4.0216083E+01	+5.5800000E+02	+4.8000000E+02	+5.2073632E+02
35.0	6	+5.4916650E+02	+4.9300777E+01	+6.4100000E+02	+5.0100000E+02	+5.2387207E+02
36.0	3	+5.7733325E+02	+1.3576941E+01	+5.9300000E+02	+5.6900000E+02	+5.2700781E+02
37.0	3	+5.8533325E+02	+3.4268547E+01	+6.2300000E+02	+5.5600000E+02	+5.3014331E+02
38.0	6	+5.1950000E+02	+6.3597955E+01	+5.8600000E+02	+4.5700000E+02	+5.3327905E+02
39.0	3	+5.3333325E+02	+8.0208262E+00	+5.4100000E+02	+5.2500000E+02	+5.3641479E+02
40.0	3	+5.0533325E+02	+2.4906491E+01	+5.3400000E+02	+4.8900000E+02	+5.3955053E+02
43.0	9	+5.1733325E+02	+5.7801394E+01	+6.0300000E+02	+4.4900000E+02	+5.4895751E+02
44.0	3	+5.8633325E+02	+6.6583281E+00	+5.9400000E+02	+5.8200000E+02	+5.5209326E+02
47.0	3	+5.7233325E+02	+1.1150485E+01	+5.8500000E+02	+5.6400000E+02	+5.6150024E+02
48.0	3	+5.6133325E+02	+3.5388321E+01	+6.0100000E+02	+5.3300000E+02	+5.6463598E+02
50.0	6	+5.5133325E+02	+4.7284951E+01	+6.0700000E+02	+4.9600000E+02	+5.7090722E+02
53.0	3	+5.0566650E+02	+2.7300793E+01	+5.3700000E+02	+4.8700000E+02	+5.8031420E+02
54.0	3	+6.7066650E+02	+9.6126652E+01	+7.8100000E+02	+6.0500000E+02	+5.8344995E+02

ANB 3066 PROPLENT (ANT & ANB LINED, P POLYMER) TENSILE MODULUS, .0002 IN/MIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
55.0	3	+5.9500000E+02	+4.9999999E+00	+6.0000000E+02	+5.9000000E+02	+5.8658569E+02
56.0	3	+6.0766650E+02	+3.8765736E+01	+6.5200000E+02	+5.8000000E+02	+5.8972143E+02
57.0	3	+5.3900000E+02	+4.5825756E+00	+5.4400000E+02	+5.3500000E+02	+5.9285693E+02

ANB 3066 PROPELNT (ANT 6 ANB LINED, P POLYMER) TENSILE MODULUS, .0002 IN/MIN

SECTION V
HIGH RATE TRIAXIAL

This test utilizes a specimen 3/4 inch (1.9 cm) GL rail by 5 inches (12.7 cm) long. The specimens are tested on the MTS at a crosshead speed of 1750 in/min (74.08 cm/sec) with 600 psi (42.18 kg/sq cm). Strain rate is 1000 in/in/sec. These conditions simulate that of the motor at ignition.

This test does not show the significant changes which are characteristic in the very low rate tensile test. No type or combination of types has significant change in all parameters. ANT propellant shows a significant increase in maximum stress and a significant decrease in strain at rupture. Modulus shows a non- significant decrease (see Table 5-1).

The most consistent statistical feature of the test is the lower standard deviation of lined cartons compared to unlined cartons. This characteristic is most noticeable in the standard deviation of modulus which, in many cases, is less than half that of unlined cartons. Since determination of a consistent modulus has been a problem in high rate testing, the much reduced deviation in lined cartons seems all the more remarkable.

TABLE 5-1

HIGH RATE TRIAXIAL
Significance of "t"

System	Sm	Fig	er	Fig	E	Fig
ANA G Unlined	NS dec	5-1	NS inc	5-2	Sig dec	5-3
ANB G Unlined	NS inc	5-4	Sig inc	5-5	NS dec	5-6
ANB G Lined	NS inc	5-7	NS dec	5-8	Sig inc	5-9
ANB P Unlined	NS inc	5-10	Sig inc	5-11	Sig dec	5-12
ANB P Lined	NS inc	5-13	NS dec	5-14	Sig inc	5-15
ANT P Unlined	Sig inc	5-16	Sig dec	5-17	NS dec	5-18
ANT P Lined	Sig inc	5-19	Sig dec	5-20	NS dec	5-21
ANA & ANB G Unlined	NS dec	5-22	Sig inc	5-23	NS dec	5-24
ANB G & P Unlined	NS inc	5-25	Sig inc	5-26	Sig dec	5-27
ANB G & P Lined	NS inc	5-28	NS dec	5-29	Sig inc	5-30
ANB & ANT P Unlined	NS dec	5-31	Sig dec	5-32	NS dec	5-33
ANB & ANT P Lined	Sig inc	5-34	Sig dec	5-35	NS inc	5-36

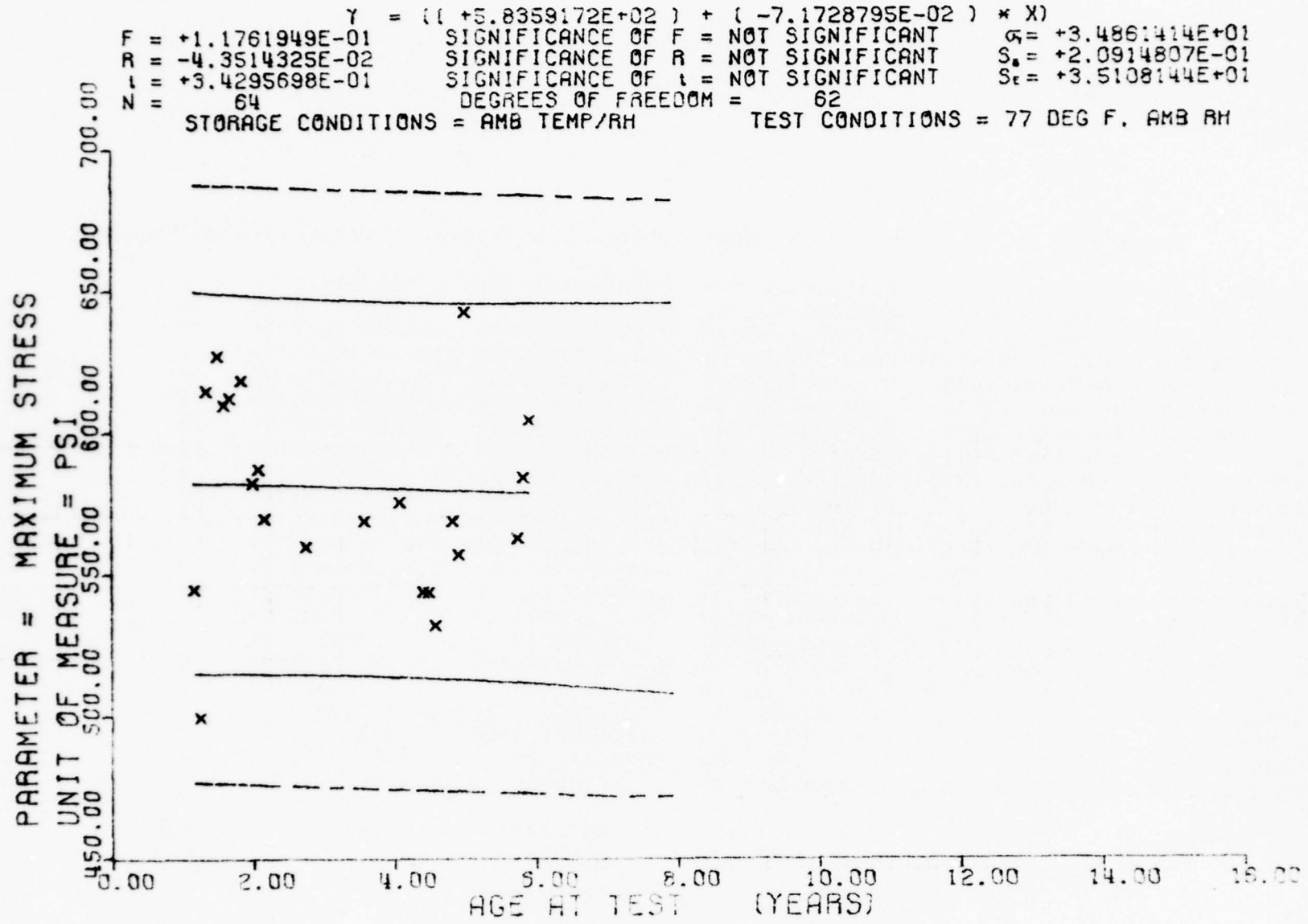

Y = ((+5.8359172E+02) + (-7.1728795E-02) * X)
F = +1.1761949E-01 SIGNIFICANCE OF F = NOT SIGNIFICANT σ = +3.4861414E+01
R = -4.3514325E-02 SIGNIFICANCE OF R = NOT SIGNIFICANT S_a = +2.0914807E-01
t = +3.4295698E-01 SIGNIFICANCE OF t = NOT SIGNIFICANT S_t = +3.5108144E+01
N = 64 DEGREES OF FREEDOM = 62
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = MAXIMUM STRESS
UNIT OF MEASURE = PSI
700.00
650.00
600.00
550.00
500.00
450.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
AGE AT TEST (YEARS)
ANB 3066 PROPELLANT (ANA) TENSILE MAX STRESS, 1750 IN/MIN, 600 PSI, 77 DEG UNLND

Figure 5-1

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
14.0	2	+5.4500000E+02	+0.0000000E+35	+5.4500000E+02	+5.4500000E+02	+5.8258740E+02
15.0	2	+5.0000000E+02	+1.4142135E+01	+5.1000000E+02	+4.9000000E+02	+5.8251562E+02
16.0	2	+6.1500000E+02	+7.0710678E+00	+6.2000000E+02	+6.1000000E+02	+5.8244384E+02
18.0	2	+6.2750000E+02	+1.0606601E+01	+6.3500000E+02	+6.2000000E+02	+5.8230053E+02
19.0	2	+6.1000000E+02	+1.4142135E+01	+6.2000000E+02	+6.0000000E+02	+5.8222875E+02
20.0	2	+6.1250000E+02	+3.1819805E+01	+6.3500000E+02	+5.9000000E+02	+5.8215698E+02
22.0	4	+6.1875000E+02	+1.9311050E+01	+6.4500000E+02	+6.0000000E+02	+5.8201367E+02
24.0	2	+5.8250000E+02	+1.0606601E+01	+5.9000000E+02	+5.7500000E+02	+5.8187011E+02
25.0	2	+5.8750000E+02	+1.7677669E+01	+6.0000000E+02	+5.7500000E+02	+5.8179833E+02
26.0	2	+5.7000000E+02	+7.0710678E+00	+5.7500000E+02	+5.6500000E+02	+5.8172656E+02
33.0	2	+5.6000000E+02	+2.1213203E+01	+5.7500000E+02	+5.4500000E+02	+5.8122460E+02
43.0	2	+5.6895996E+02	+2.6457455E-02	+5.6895996E+02	+5.6895996E+02	+5.8050732E+02
49.0	1	+5.7579980E+02	+0.0000000E+83	+5.7579980E+02	+5.7579980E+02	+5.8007690E+02
53.0	3	+5.4395312E+02	+5.5807842E+00	+5.4965991E+02	+5.3853979E+02	+5.7979003E+02
54.0	3	+5.4393652E+02	+1.9268383E+00	+5.4584985E+02	+5.4210986E+02	+5.7971826E+02
55.0	3	+5.3230639E+02	+5.0986986E+00	+5.3816992E+02	+5.2913989E+02	+5.7964648E+02
58.0	6	+5.6896142E+02	+2.7159766E+01	+5.8793994E+02	+5.1848999E+02	+5.7943139E+02
59.0	1	+5.5694995E+02	+0.0000000E+03	+5.5694995E+02	+5.5694995E+02	+5.7935961E+02
60.0	3	+6.4258642E+02	+7.5308923E+00	+6.4965991E+02	+6.3464990E+02	+5.7928784E+02
69.0	6	+5.6271630E+02	+6.3365990E+00	+5.6979980E+02	+5.5352978E+02	+5.7864233E+02
70.0	3	+5.8411987E+02	+7.2869410E+00	+5.9245996E+02	+5.7900000E+02	+5.7857055E+02
71.0	9	+6.0441479E+02	+6.7112358E+00	+6.1928979E+02	+5.9648999E+02	+5.7849877E+02

ANB 3066 PROPELLANT(ANA) TENSILE MAX STRESS, 1750 IN/MIN, 600 PSI, 77 DEG UNLND

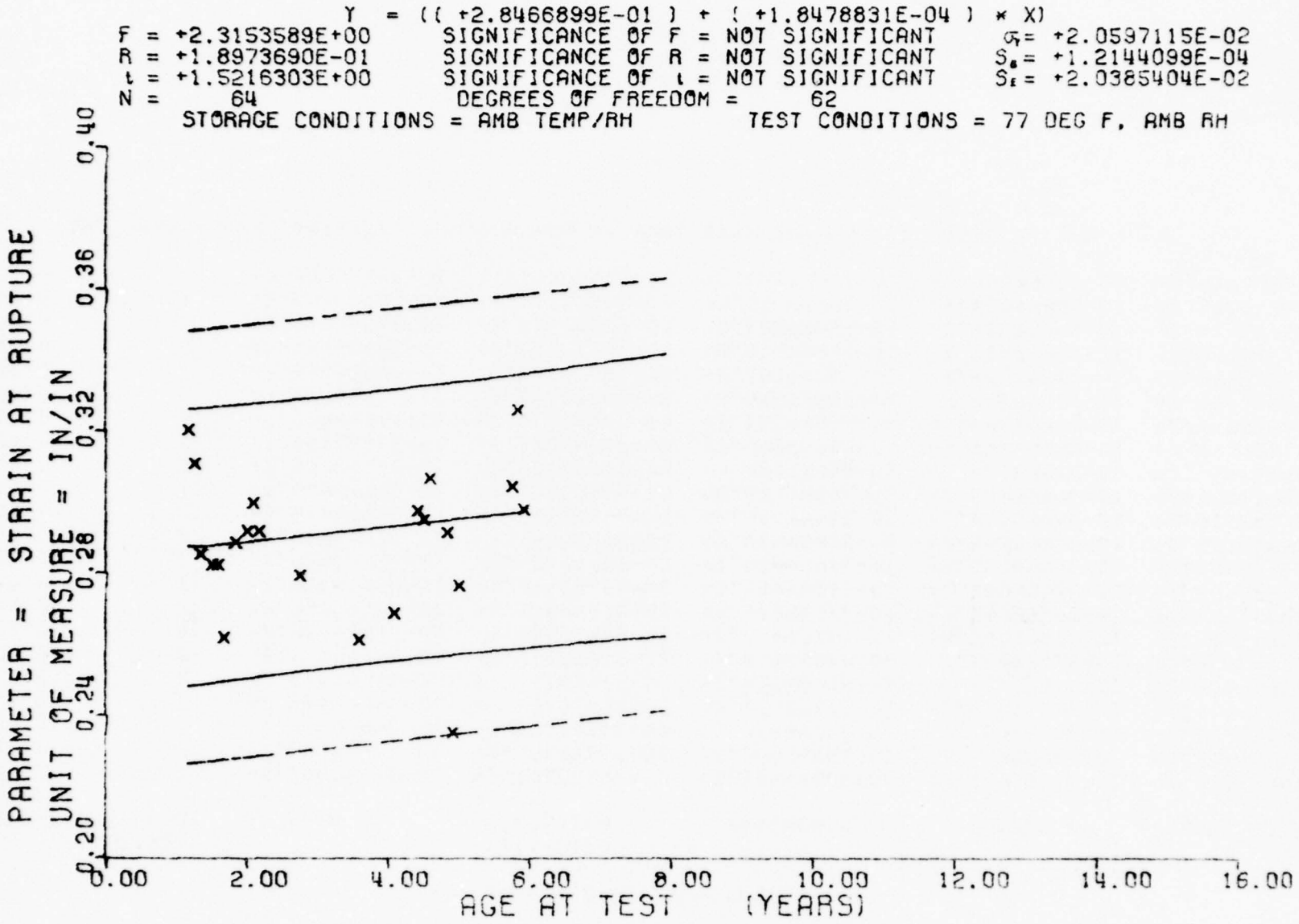

Y = ((+2.8466899E-01) + (+1.8478831E-04) * X)
F = +2.3153589E+00 SIGNIFICANCE OF F = NOT SIGNIFICANT σ = +2.0597115E-02
R = +1.8973690E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT S_a = +1.2144099E-04
t = +1.5216303E+00 SIGNIFICANCE OF t = NOT SIGNIFICANT S_ε = +2.0385404E-02
N = 64 DEGREES OF FREEDOM = 62
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = STRAIN AT RUPTURE
UNIT OF MEASURE = IN/IN
0.40
0.36
0.32
0.28
0.24
0.20
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPELLANT (ANA) TENSILE STN AT RUP, 1750 IN/MIN, 600 PSI, 77 DEG UNLND

Figure 5-2

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
14.0	2	+3.2049995E-01	+2.1920089E-02	+3.3599996E-01	+3.0499994E-01	+2.8725600E-01
15.0	2	+3.1099998E-01	+9.3668466E-06	+3.1099998E-01	+3.1099998E-01	+2.8744077E-01
16.0	2	+2.8549998E-01	+9.1903654E-03	+2.9199999E-01	+2.7899998E-01	+2.8762555E-01
18.0	2	+2.8249996E-01	+2.1918605E-02	+2.9799997E-01	+2.6699995E-01	+2.8799515E-01
19.0	2	+2.8249996E-01	+1.3434832E-02	+2.9199999E-01	+2.7299994E-01	+2.8817993E-01
20.0	2	+2.6199996E-01	+3.8182992E-02	+2.8899997E-01	+2.3499995E-01	+2.8836470E-01
22.0	4	+2.8874993E-01	+1.9889193E-02	+3.0499994E-01	+2.5999999E-01	+2.8873431E-01
24.0	2	+2.9199993E-01	+8.4839413E-03	+2.9799997E-01	+2.8599995E-01	+2.8910386E-01
25.0	2	+2.9999995E-01	+3.3941763E-02	+3.2399994E-01	+2.7599996E-01	+2.8928869E-01
26.0	2	+2.9199993E-01	+8.4839413E-03	+2.9799997E-01	+2.8599995E-01	+2.8947347E-01
33.0	2	+2.7949994E-01	+1.7675847E-02	+2.9199999E-01	+2.6699995E-01	+2.9076695E-01
43.0	2	+2.6149994E-01	+1.7746321E-04	+2.6149994E-01	+2.6149994E-01	+2.9261487E-01
49.0	1	+2.6899999E-01	+0.0000000E+83	+2.6899999E-01	+2.6899999E-01	+2.9372358E-01
53.0	3	+2.9779994E-01	+5.5963800E-03	+3.0219995E-01	+2.9149997E-01	+2.9446274E-01
54.0	3	+2.9516661E-01	+4.4306636E-03	+2.9999995E-01	+2.9129999E-01	+2.9464751E-01
55.0	3	+3.0699992E-01	+7.0138851E-03	+3.1119996E-01	+2.9889994E-01	+2.9483234E-01
58.0	6	+2.9171639E-01	+1.2448180E-02	+3.0989998E-01	+2.7829998E-01	+2.9538667E-01
59.0	1	+2.3539996E-01	+0.0000000E+03	+2.3539996E-01	+2.3539996E-01	+2.9557144E-01
60.0	3	+2.7656662E-01	+4.2344514E-03	+2.8139996E-01	+2.7349996E-01	+2.9575628E-01
69.0	6	+3.0466651E-01	+8.0217607E-03	+3.1299996E-01	+2.9199999E-01	+2.9741936E-01
70.0	3	+3.2633328E-01	+1.4188270E-02	+3.3899998E-01	+3.1099998E-01	+2.9760414E-01
71.0	9	+2.9833292E-01	+1.7922844E-02	+3.1499999E-01	+2.5499999E-01	+2.9778891E-01

ANB 3066 PROPELLANT(ANA) TENSILE STN AT RUP, 1750 IN/MIN, 600 PSI, 77 DEG UNLND

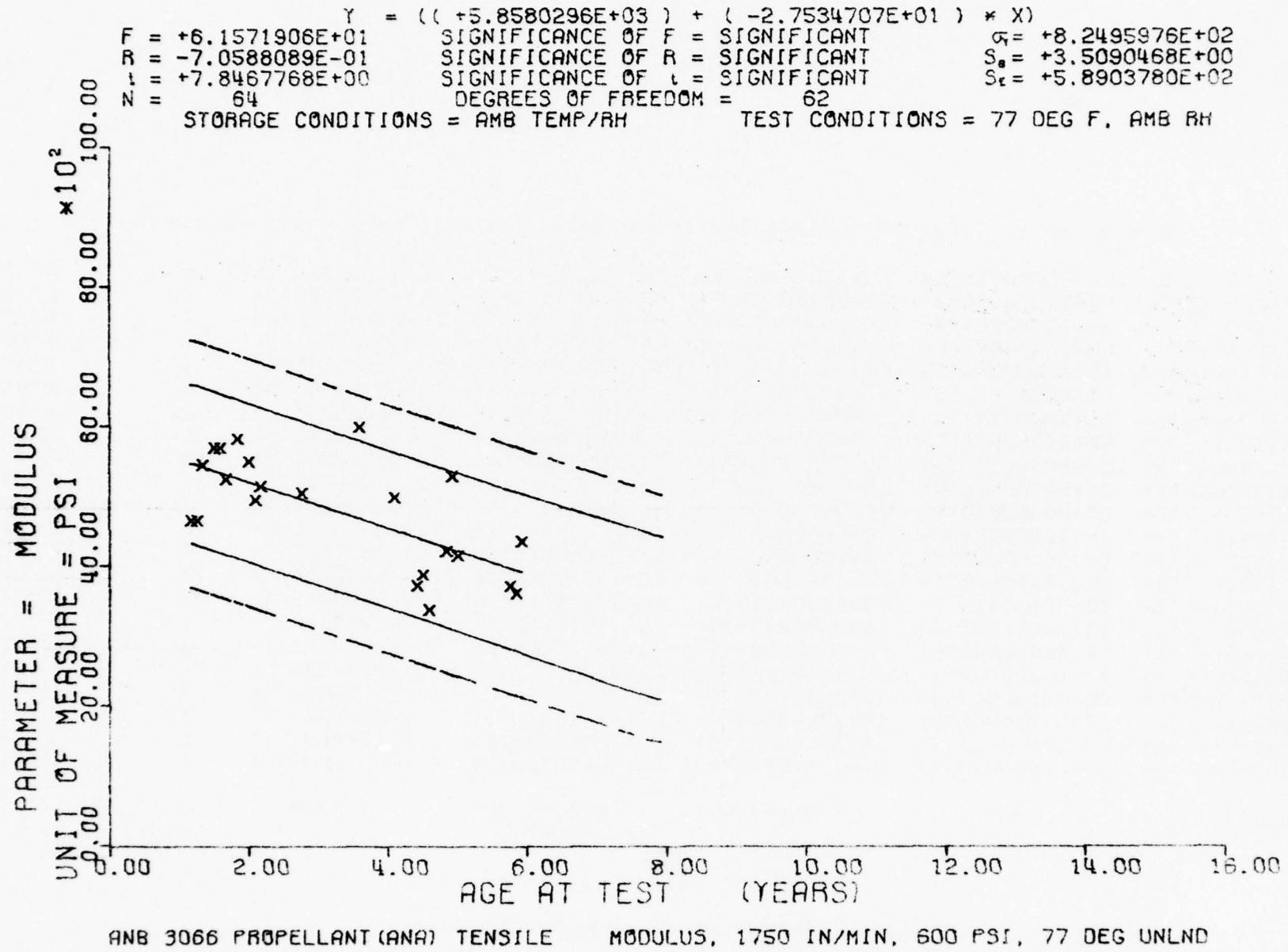

Y = ((+5.8580296E+03) + (-2.7534707E+01) * X)
F = +6.1571906E+01 SIGNIFICANCE OF F = SIGNIFICANT
R = -7.0588089E-01 SIGNIFICANCE OF R = SIGNIFICANT
t = +7.8467768E+00 SIGNIFICANCE OF t = SIGNIFICANT
N = 64 DEGREES OF FREEDOM = 62
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = MODULUS
UNIT OF MEASURE = PSI *10²
0.00
20.00
40.00
60.00
80.00
100.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPELLANT (ANA) TENSILE MODULUS, 1750 IN/MIN, 600 PSI, 77 DEG UNLND

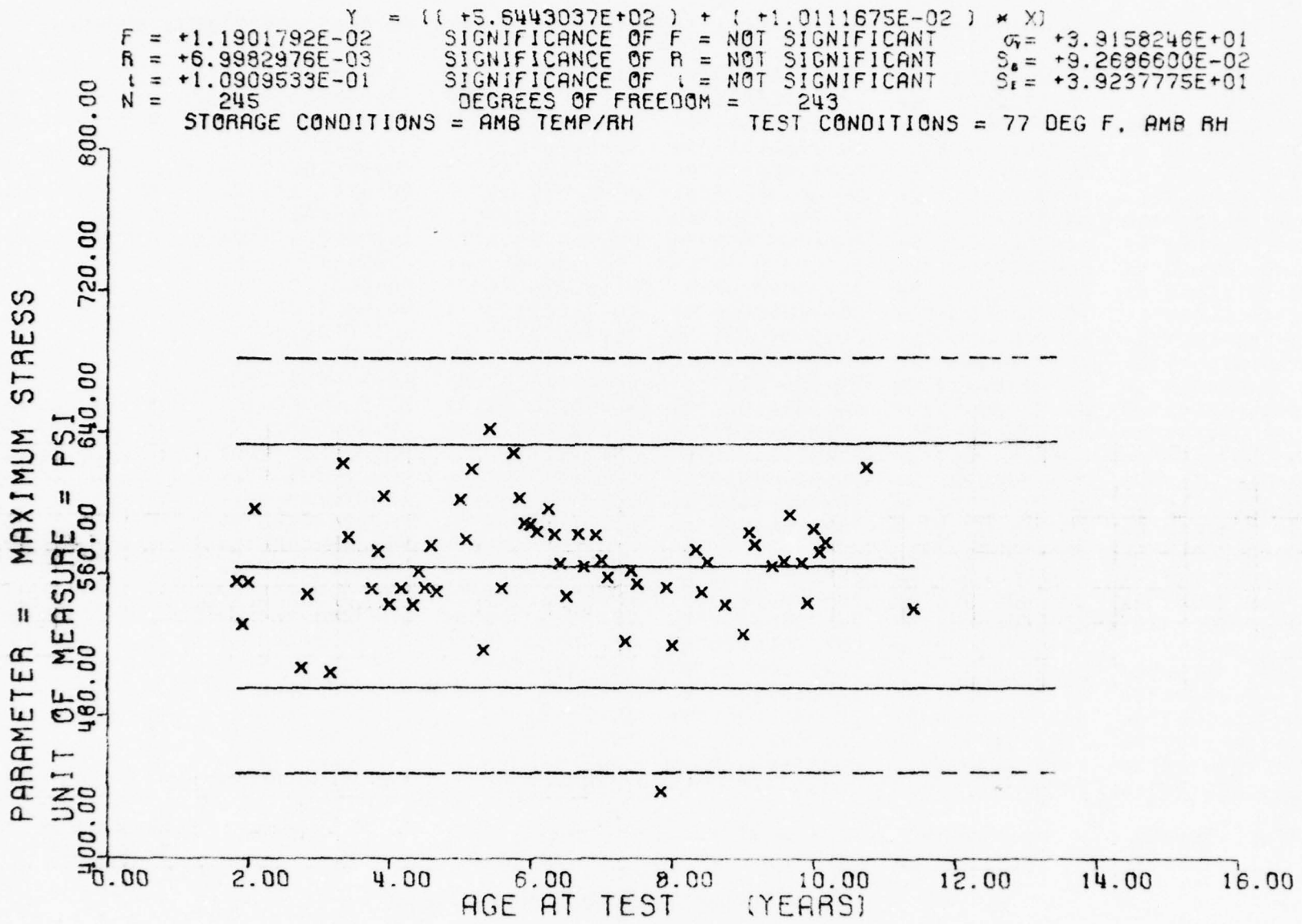
Figure 5-3

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
14.0	2	+4.6500000E+03	+7.0710678E+01	+4.7000000E+03	+4.6000000E+03	+5 4725429E+03
15.0	2	+4.6500000E+03	+3.5355339E+02	+4.9000000E+03	+4.4000000E+03	+5.4450078E+03
16.0	2	+5.4500000E+03	+7.7781745E+02	+6.0000000E+03	+4.9000000E+03	+5.4174726E+03
18.0	2	+5.7000000E+03	+1.4142135E+02	+5.8000000E+03	+5.6000000E+03	+5.3624023E+03
19.0	2	+5.7000000E+03	+1.4142135E+02	+5.8000000E+03	+5.6000000E+03	+5.3348671E+03
20.0	2	+5.2500000E+03	+4.9497474E+02	+5.6000000E+03	+4.9000000E+03	+5.3073320E+03
22.0	4	+5.8250000E+03	+6.3442887E+02	+6.6000000E+03	+5.1000000E+03	+5.2522656E+03
24.0	2	+5.5000000E+03	+1.4142135E+02	+5.6000000E+03	+5.4000000E+03	+5.1971953E+03
25.0	2	+4.9500000E+03	+3.5355339E+02	+5.2000000E+03	+4.7000000E+03	+5.1696601E+03
26.0	2	+5.1500000E+03	+3.5355339E+02	+5.4000000E+03	+4.9000000E+03	+5.1421250E+03
33.0	2	+5.0500000E+03	+2.1213203E+02	+5.2000000E+03	+4.9000000E+03	+4.9493828E+03
43.0	2	+6.0000000E+03	+0.0000000E+79	+6.0000000E+03	+6.0000000E+03	+4.6740351E+03
49.0	1	+5.0000000E+03	+0.0000000E+83	+5.0000000E+03	+5.0000000E+03	+4.5088281E+03
53.0	3	+3.7273332E+03	+3.2608792E+01	+3.7620000E+03	+3.6970000E+03	+4.3986875E+03
54.0	3	+3.8853332E+03	+1.4979096E+02	+4.0120000E+03	+3.7200000E+03	+4.3711523E+03
55.0	3	+3.3820000E+03	+1.1980818E+02	+3.5120000E+03	+3.2760000E+03	+4.3436171E+03
58.0	6	+4.2245000E+03	+4.0682145E+02	+4.7360000E+03	+3.7290000E+03	+4.2610156E+03
59.0	1	+5.3000000E+03	+0.0000000E+03	+5.3000000E+03	+5.3000000E+03	+4.2334804E+03
60.0	3	+4.1573320E+03	+3.0193597E+02	+4.4170000E+03	+3.8260000E+03	+4.2059453E+03
69.0	6	+3.7236665E+03	+1.6251974E+02	+3.9130000E+03	+3.4450000E+03	+3.9581345E+03
70.0	3	+3.6150000E+03	+2.5894014E+01	+3.6300000E+03	+3.5850000E+03	+3.9305998E+03
71.0	9	+4.3553320E+03	+3.1688720E+02	+4.8790000E+03	+3.9190000E+03	+3.9030651E+03

ANB 3066 PROPELLANT(ANA) TENSILE MODULUS, 1750 IN/MIN, 600 PSI, 77 DEG UNLND



ANB 3066 PROPELLANT (ANB G) TENSILE MAX STRESS, 1750 IN/MIN, 600 PSI UNLND CTNS

Figure 5-4

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
22.0	2	+5.5638476E+02	+1.0820743E+01	+5.6402978E+02	+5.4873999E+02	+5.6465283E+02
23.0	2	+5.3182983E+02	+1.5388167E+01	+5.4270996E+02	+5.2094995E+02	+5.6476284E+02
24.0	2	+5.5563989E+02	+2.6788421E+01	+5.7457983E+02	+5.3669995E+02	+5.6487285E+02
25.0	2	+5.9723486E+02	+1.5529364E+01	+6.0820996E+02	+5.8625976E+02	+5.6498310E+02
33.0	2	+5.0750000E+02	+3.5355339E+00	+5.1000000E+02	+5.0500000E+02	+5.6576391E+02
34.0	6	+5.4916650E+02	+6.0861865E+01	+6.4500000E+02	+5.0500000E+02	+5.6587416E+02
38.0	1	+5.0500000E+02	+0.0000000E+59	+5.0500000E+02	+5.0500000E+02	+5.6631445E+02
40.0	2	+6.2294482E+02	+9.8393488E+00	+6.2989990E+02	+6.1598999E+02	+5.6653471E+02
41.0	4	+5.8125000E+02	+1.6007810E+01	+6.0500000E+02	+5.7000000E+02	+5.6664472E+02
45.0	7	+5.5229687E+02	+1.3088065E+01	+5.6931982E+02	+5.4097998E+02	+5.6708525E+02
46.0	5	+5.7339990E+02	+3.3346656E+00	+5.7643994E+02	+5.6795996E+02	+5.6719550E+02
47.0	2	+6.0458471E+02	+4.2464954E+00	+6.0755981E+02	+6.0160986E+02	+5.6730551E+02
48.0	4	+5.4338232E+02	+4.2273191E+01	+5.8395996E+02	+4.9000000E+02	+5.6741552E+02
50.0	2	+5.5250000E+02	+3.5355339E+00	+5.5500000E+02	+5.5000000E+02	+5.6763579E+02
52.0	3	+5.4299316E+02	+3.4555181E+00	+5.4689990E+02	+5.4039990E+02	+5.6785605E+02
53.0	7	+5.6194555E+02	+7.0277972E+00	+5.6865991E+02	+5.5025976E+02	+5.6796606E+02
54.0	14	+5.5254687E+02	+3.4376101E+01	+6.2203979E+02	+5.0500000E+02	+5.6807631E+02
55.0	8	+5.7661865E+02	+3.7970737E+01	+6.1000000E+02	+5.1276977E+02	+5.6818632E+02
56.0	6	+5.5058813E+02	+3.5224132E+01	+5.9610986E+02	+5.0009985E+02	+5.6829658E+02
60.0	2	+6.0250000E+02	+1.7677669E+01	+6.1500000E+02	+5.9000000E+02	+5.6873686E+02
61.0	2	+5.8000000E+02	+1.4142135E+01	+5.9000000E+02	+5.7000000E+02	+5.6884711E+02
62.0	2	+6.2000000E+02	+0.0000000E+19	+6.2000000E+02	+6.2000000E+02	+5.6895712E+02
64.0	2	+5.1756469E+02	+1.7750086E+01	+5.3010986E+02	+5.0501977E+02	+5.6917739E+02
65.0	2	+6.4250000E+02	+3.5355339E+00	+6.4500000E+02	+6.4000000E+02	+5.6928740E+02
67.0	4	+5.5250000E+02	+1.8484227E+01	+5.8000000E+02	+5.4000000E+02	+5.6950766E+02
69.0	4	+6.2891723E+02	+8.1141467E+00	+6.4000000E+02	+6.2253979E+02	+5.6972792E+02
70.0	7	+6.0380126E+02	+3.6015271E+01	+6.4945996E+02	+5.6000000E+02	+5.6983818E+02
71.0	2	+5.8947485E+02	+1.1276929E+01	+5.9743994E+02	+5.8150976E+02	+5.6994819E+02
72.0	8	+5.8860351E+02	+4.5400143E+01	+6.5090991E+02	+5.3000000E+02	+5.7005820E+02
73.0	4	+5.8422973E+02	+6.0579438E+01	+6.3939990E+02	+5.1325000E+02	+5.7016845E+02
75.0	2	+5.9750000E+02	+1.0606601E+01	+6.0500000E+02	+5.9000000E+02	+5.7038872E+02

ANB 3066 PROPELLANT (ANB G) TENSILE MAX STRESS, 1750 IN/MIN, 600 PSI UNLND CTNS

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
76.0	4	+5.8272241E+02	+7.9027780E+00	+5.8925976E+02	+5.7196997E+02	+5.6519873E+02
77.0	9	+5.6665258E+02	+3.8685696E+01	+6.2756982E+02	+5.2000000E+02	+5.6520874E+02
78.0	9	+5.4799389E+02	+3.1066334E+01	+6.0200976E+02	+5.1458984E+02	+5.6521899E+02
80.0	2	+5.8302978E+02	+7.7927364E+00	+5.8851977E+02	+5.7753979E+02	+5.6523925E+02
81.0	9	+5.6458154E+02	+2.2799618E+01	+5.9264990E+02	+5.3000000E+02	+5.6524926E+02
83.0	2	+5.8269995E+02	+9.6194494E+00	+5.8950000E+02	+5.7589990E+02	+5.6526953E+02
84.0	6	+5.6838134E+02	+9.5548330E+00	+5.8425976E+02	+5.5950000E+02	+5.6527954E+02
85.0	2	+5.5872998E+02	+3.5256702E+00	+5.6121997E+02	+5.5623999E+02	+5.6528979E+02
88.0	6	+5.2239160E+02	+5.7038737E+01	+5.8295996E+02	+4.5000000E+02	+5.6532006E+02
89.0	3	+5.6244653E+02	+2.0974739E+01	+5.7597998E+02	+5.3828979E+02	+5.6533007E+02
90.0	4	+5.5508740E+02	+2.6745111E+01	+5.8032983E+02	+5.2892993E+02	+5.6534033E+02
94.0	2	+4.3786474E+02	+1.4550410E+01	+4.4814990E+02	+4.2757983E+02	+5.6538085E+02
95.0	4	+5.5308984E+02	+2.1207144E+01	+5.6657983E+02	+5.2172998E+02	+5.6539086E+02
96.0	4	+5.2019482E+02	+7.6348198E+00	+5.2834985E+02	+5.1000000E+02	+5.6540087E+02
100.0	2	+5.7443481E+02	+5.3567623E+00	+5.7821997E+02	+5.7064990E+02	+5.6544140E+02
101.0	2	+5.5044995E+02	+5.6082537E+00	+5.5440991E+02	+5.4648999E+02	+5.6545141E+02
102.0	8	+5.6732958E+02	+3.4280548E+01	+5.9489990E+02	+5.0965991E+02	+5.6546166E+02
105.0	2	+5.4314990E+02	+5.1773224E+00	+5.4679980E+02	+5.3950000E+02	+5.6549194E+02
108.0	2	+5.2655981E+02	+3.6001536E+00	+5.2906982E+02	+5.2404980E+02	+5.6552221E+02
109.0	2	+5.8410986E+02	+1.0223636E+01	+5.9132983E+02	+5.7688989E+02	+5.6553247E+02
110.0	2	+5.7719995E+02	+2.4228566E+00	+5.7889990E+02	+5.7550000E+02	+5.6554248E+02
113.0	2	+5.6501977E+02	+2.5606317E+00	+5.6676977E+02	+5.6326977E+02	+5.6557275E+02
115.0	2	+5.6779980E+02	+8.9378277E-01	+5.6839990E+02	+5.6719995E+02	+5.6559301E+02
116.0	2	+5.9424975E+02	+5.0413451E+00	+5.9779980E+02	+5.9069995E+02	+5.6560327E+02
118.0	12	+5.6693750E+02	+5.7035943E+01	+6.2046997E+02	+4.7754980E+02	+5.6562353E+02
119.0	5	+5.4448168E+02	+5.1186877E+01	+5.9761987E+02	+4.7418994E+02	+5.6563354E+02
120.0	4	+5.8612988E+02	+2.4797551E+01	+6.1150000E+02	+5.5250000E+02	+5.6564355E+02
121.0	2	+5.7306982E+02	+2.4156744E+01	+5.9014990E+02	+5.5598999E+02	+5.6565380E+02
122.0	4	+5.7851489E+02	+5.2623271E+00	+5.8533984E+02	+5.7267993E+02	+5.6566381E+02
129.0	2	+6.2094970E+02	+5.8997438E+00	+6.2509985E+02	+6.1679980E+02	+5.6573461E+02
137.0	2	+5.4095483E+02	+5.5382919E+00	+5.4484985E+02	+5.3705981E+02	+5.6581557E+02

ANB 3066 PROPELLANT (ANB G) TENSILE MAX STRESS, 1750 IN/MIN, 600 PSI UNLVD CTNS

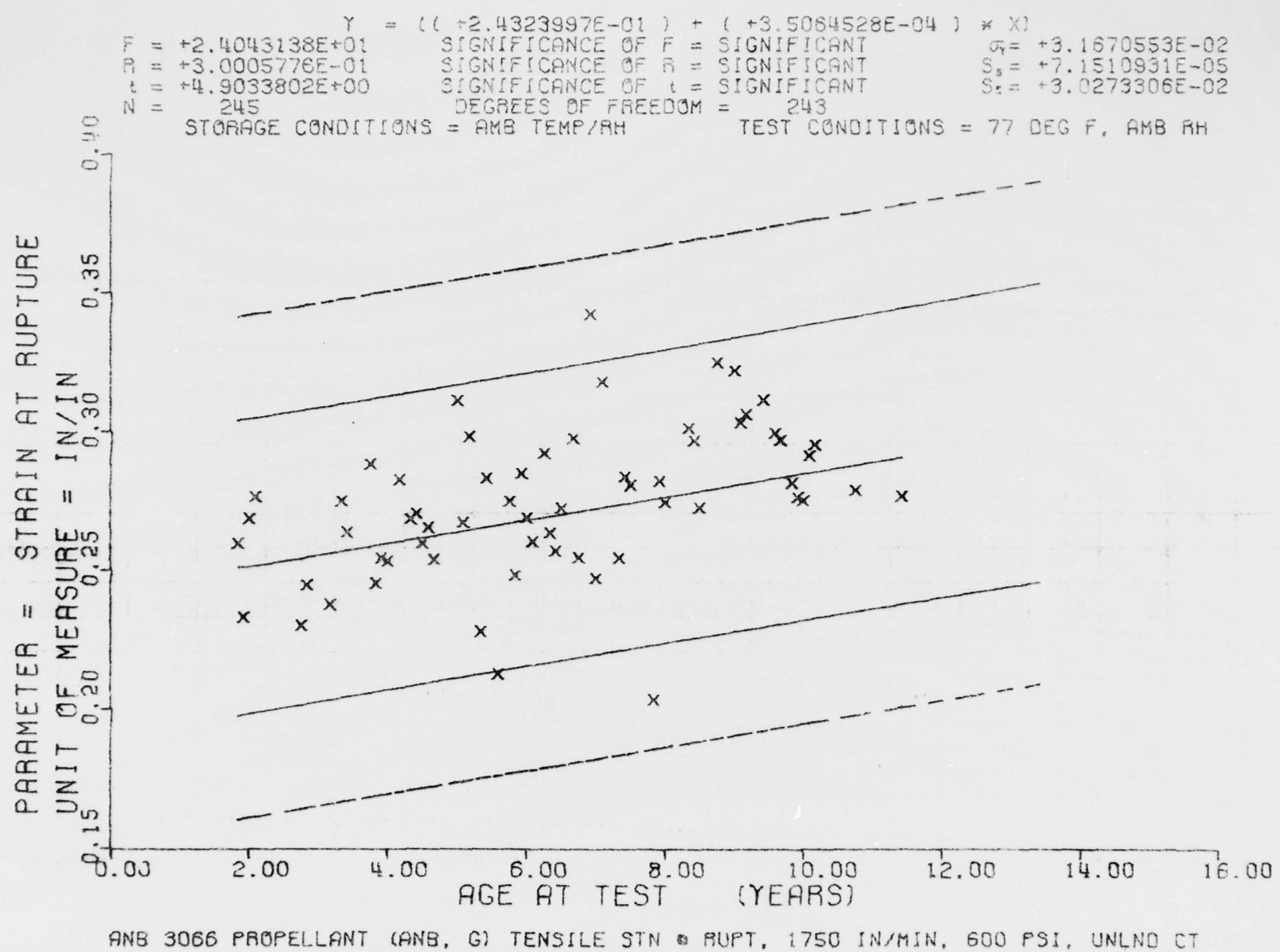

Y = ((+2.4323997E-01) + (+3.5064528E-04) * X)
F = +2.4043138E+01 SIGNIFICANCE OF F = SIGNIFICANT σY = +3.1670553E-02
R = +3.0005776E-01 SIGNIFICANCE OF R = SIGNIFICANT Sb = +7.1510931E-05
t = +4.9033802E+00 SIGNIFICANCE OF t = SIGNIFICANT Sε = +3.0273306E-02
N = 245 DEGREES OF FREEDOM = 243
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = STRAIN AT RUPTURE
UNIT OF MEASURE = IN/IN
0.40
0.35
0.30
0.25
0.20
0.15
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPELLANT (ANB, G) TENSILE STN @ RUPT, 1750 IN/MIN, 600 PSI, UNLND CT

Figure 5-5

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
22.0	2	+2.5994992E-01	+1.5909577E-02	+2.7119994E-01	+2.4869996E-01	+2.5095415E-01
23.0	2	+2.3339992E-01	+6.9320173E-03	+2.3829996E-01	+2.2849994E-01	+2.5130480E-01
24.0	2	+2.6884996E-01	+7.2809376E-03	+2.7399998E-01	+2.6369994E-01	+2.5165545E-01
25.0	2	+2.7684998E-01	+9.2608875E-03	+2.8339999E-01	+2.7029997E-01	+2.5200605E-01
33.0	2	+2.3049998E-01	+4.9489223E-03	+2.3399996E-01	+2.2699999E-01	+2.5481122E-01
34.0	6	+2.4499970E-01	+4.8741517E-02	+3.1199997E-01	+1.8099999E-01	+2.5516188E-01
38.0	1	+2.3799997E-01	+0.0000000E+59	+2.3799997E-01	+2.3799997E-01	+2.5656443E-01
40.0	2	+2.7534991E-01	+1.0394660E-02	+2.8269994E-01	+2.6799994E-01	+2.5726574E-01
41.0	4	+2.6399993E-01	+2.7006256E-02	+2.9299998E-01	+2.4099999E-01	+2.5761640E-01
45.0	7	+2.8859978E-01	+3.5599054E-02	+3.1309998E-01	+2.2059994E-01	+2.5901895E-01
46.0	5	+2.4547976E-01	+1.5943150E-02	+2.6299995E-01	+2.2499996E-01	+2.5936961E-01
47.0	2	+2.5459992E-01	+9.7579956E-03	+2.6149994E-01	+2.4769997E-01	+2.5972026E-01
48.0	4	+2.5344991E-01	+3.8897681E-02	+2.8359997E-01	+1.9899994E-01	+2.6007091E-01
50.0	2	+2.8299993E-01	+2.8240902E-03	+2.8499996E-01	+2.8099995E-01	+2.6077222E-01
52.0	3	+2.6879996E-01	+1.0499209E-02	+2.7629995E-01	+2.5679999E-01	+2.6147347E-01
53.0	7	+2.7085685E-01	+2.3233574E-03	+2.7309995E-01	+2.6749998E-01	+2.6182413E-01
54.0	14	+2.6001381E-01	+4.1428207E-02	+3.2209998E-01	+1.5599995E-01	+2.6217478E-01
55.0	8	+2.6577472E-01	+2.6305432E-02	+3.0369997E-01	+2.3499995E-01	+2.6252543E-01
56.0	6	+2.5408315E-01	+1.6919746E-02	+2.7879995E-01	+2.3799997E-01	+2.6287609E-01
60.0	2	+3.1149995E-01	+2.1919617E-02	+3.2699996E-01	+2.9599994E-01	+2.6427865E-01
61.0	2	+2.6749998E-01	+2.4748653E-02	+2.8499996E-01	+2.5000000E-01	+2.6462930E-01
62.0	2	+2.9849994E-01	+9.1907829E-03	+3.0499994E-01	+2.9199999E-01	+2.6497995E-01
64.0	2	+2.2819995E-01	+2.0646958E-02	+2.4279999E-01	+2.1359997E-01	+2.6568126E-01
65.0	2	+2.8349995E-01	+1.3434547E-02	+2.9299998E-01	+2.7399998E-01	+2.6603186E-01
67.0	4	+2.1299993E-01	+5.7141230E-03	+2.1999996E-01	+2.0599997E-01	+2.6673316E-01
69.0	4	+2.7509975E-01	+1.4148626E-02	+2.9599994E-01	+2.6469999E-01	+2.6743447E-01
70.0	7	+2.4834263E-01	+2.6383272E-02	+2.8899997E-01	+2.1999996E-01	+2.6778513E-01
71.0	2	+2.8509998E-01	+5.6503855E-03	+2.8909999E-01	+2.8109997E-01	+2.6813578E-01
72.0	8	+2.6916217E-01	+2.4875952E-02	+2.9699999E-01	+2.2799998E-01	+2.6848638E-01
73.0	4	+2.6047492E-01	+4.4014781E-02	+2.8409999E-01	+1.9449996E-01	+2.6883703E-01
75.0	2	+2.9249995E-01	+4.9460191E-03	+2.9599994E-01	+2.8899997E-01	+2.6953834E-01

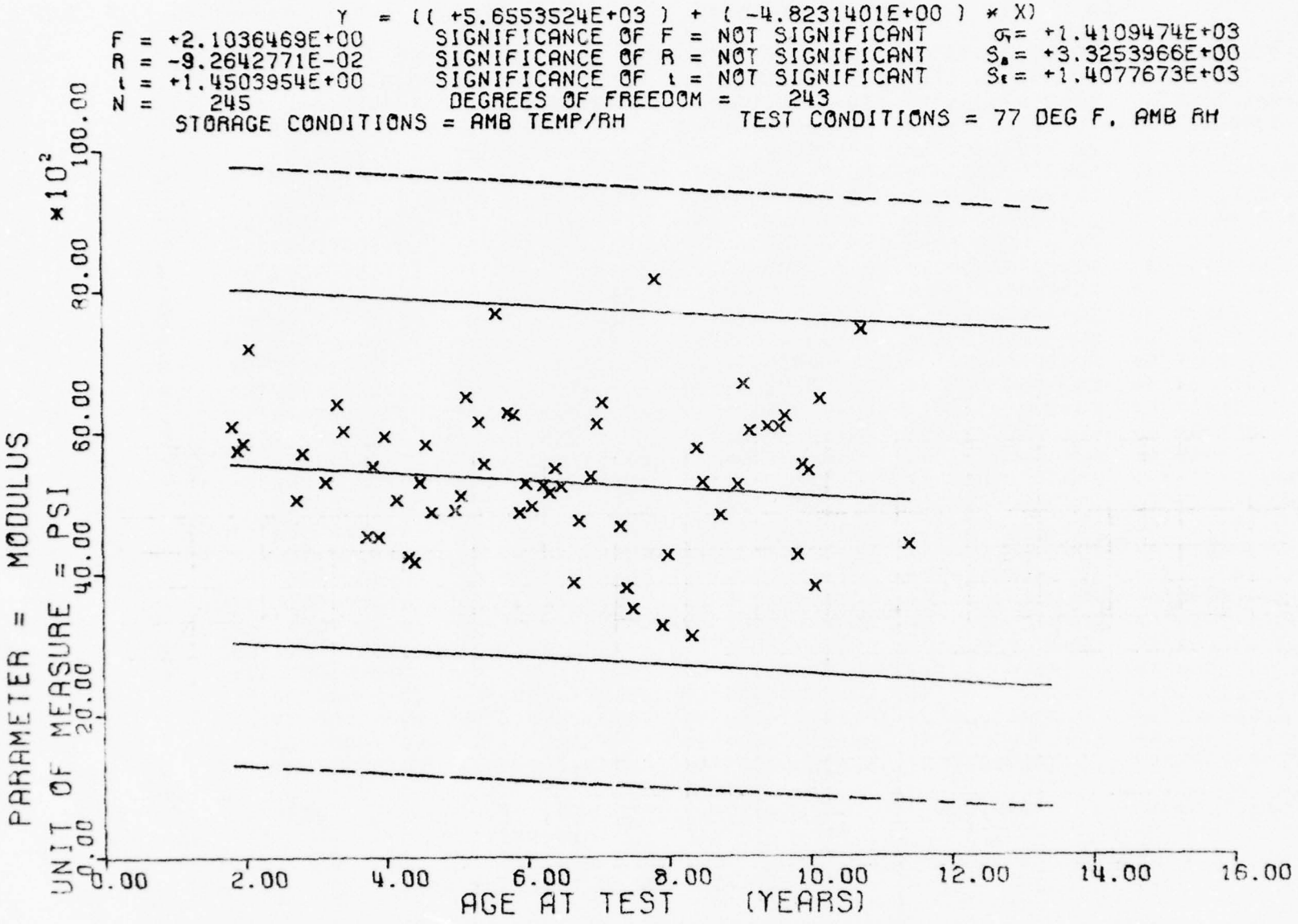
ANB 3066 PROPELLANT (ANB, G) TENSILE STN @ RUPT, 1750 IN/MIN, 600 PSI, UNLND CT

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
76.0	4	+2.6374983E-01	+4.9163270E-03	+2.6849997E-01	+2.5819998E-01	+2.6938899E-01
77.0	9	+2.5722193E-01	+2.2985323E-02	+2.8939998E-01	+2.1999996E-01	+2.7023965E-01
78.0	9	+2.7274417E-01	+3.4294227E-02	+3.1329995E-01	+2.2449994E-01	+2.7059030E-01
80.0	2	+2.9789996E-01	+2.9650728E-03	+2.9999995E-01	+2.9579997E-01	+2.7129155E-01
81.0	9	+2.5473308E-01	+1.4230329E-02	+2.7199995E-01	+2.2799998E-01	+2.7164220E-01
83.0	2	+3.4259992E-01	+9.3335779E-03	+3.4919995E-01	+3.3599996E-01	+2.7234351E-01
84.0	6	+2.4733304E-01	+6.0439971E-02	+3.2599997E-01	+1.7889994E-01	+2.7269417E-01
85.0	2	+3.1819993E-01	+5.9399765E-03	+3.2239997E-01	+3.1399995E-01	+2.7304476E-01
88.0	6	+2.5466644E-01	+2.4787895E-02	+2.7899998E-01	+2.1999996E-01	+2.7409672E-01
89.0	3	+2.8406661E-01	+1.3477935E-02	+2.9899996E-01	+2.7279996E-01	+2.7444738E-01
90.0	4	+2.8099989E-01	+1.4100963E-02	+3.0099999E-01	+2.6799994E-01	+2.7479803E-01
94.0	2	+2.0369994E-01	+4.2435948E-03	+2.0669996E-01	+2.0069998E-01	+2.7620059E-01
95.0	4	+2.8249979E-01	+5.6963429E-03	+2.8899997E-01	+2.7599996E-01	+2.7655124E-01
96.0	4	+2.7474975E-01	+4.1211447E-02	+3.0799996E-01	+2.1999996E-01	+2.7690190E-01
100.0	2	+3.0154991E-01	+9.4051879E-03	+3.0819994E-01	+2.9489994E-01	+2.7830445E-01
101.0	2	+2.9699993E-01	+1.4140953E-02	+3.0699998E-01	+2.8699994E-01	+2.7865511E-01
102.0	8	+2.7279973E-01	+1.9683442E-02	+2.9669994E-01	+2.3819994E-01	+2.7900576E-01
105.0	2	+3.2524996E-01	+4.5940192E-03	+3.2849997E-01	+3.2199996E-01	+2.8005772E-01
108.0	2	+3.2224994E-01	+3.1773070E-03	+3.2449996E-01	+3.1999999E-01	+2.8110963E-01
109.0	2	+3.0334997E-01	+9.2603724E-03	+3.0989998E-01	+2.9679995E-01	+2.8146028E-01
110.0	2	+3.0654996E-01	+6.1404055E-04	+3.0699998E-01	+3.0609995E-01	+2.8181093E-01
113.0	2	+3.1174993E-01	+1.7243795E-04	+3.1179994E-01	+3.1169998E-01	+2.8286284E-01
115.0	2	+2.9974997E-01	+1.0534271E-02	+3.0719995E-01	+2.9229998E-01	+2.8356415E-01
116.0	2	+2.9729992E-01	+8.9091572E-03	+3.0359995E-01	+2.9099994E-01	+2.8391480E-01
118.0	12	+2.8176641E-01	+2.2457355E-02	+3.1949996E-01	+2.4349999E-01	+2.8461611E-01
119.0	5	+2.7649974E-01	+2.1760764E-02	+3.0239999E-01	+2.5369995E-01	+2.8496670E-01
120.0	4	+2.7539992E-01	+6.4490516E-03	+2.8059995E-01	+2.6599997E-01	+2.8531736E-01
121.0	2	+2.9149997E-01	+1.2019944E-02	+2.9999995E-01	+2.8299999E-01	+2.8566801E-01
122.0	4	+2.9564976E-01	+3.4519689E-03	+2.9839998E-01	+2.9089999E-01	+2.8601866E-01
129.0	2	+2.7924996E-01	+3.4626055E-03	+2.8169995E-01	+2.7679997E-01	+2.8847318E-01
137.0	2	+2.7699995E-01	+1.8382597E-02	+2.8999996E-01	+2.6399999E-01	+2.9127836E-01

ANB 3066 PROPELLANT (ANB, G) TENSILE STN @ RUPT, 1750 IN/MIN, 600 PSI, UNLND CT



ANB 3066 PROPELLANT (ANB, G) TENSILE MODULUS, 1750 IN/MIN, 600 PSI, UNLND CTNS

Figure 5-6

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
22.0	2	+6.1000000E+03	+2.8284271E+02	+6.3000000E+03	+5.9000000E+03	+5.54[illegible]2421E+03
23.0	2	+5.7500000E+03	+2.1213203E+02	+5.9000000E+03	+5.6000000E+03	+5.5444179E+03
24.0	2	+5.8500000E+03	+4.9497474E+02	+6.2000000E+03	+5.5000000E+03	+5.5395937E+03
25.0	2	+7.2000000E+03	+8.4852813E+02	+7.8000000E+03	+6.6000000E+03	+5.5347734E+03
33.0	2	+5.0500000E+03	+3.5355339E+02	+5.3000000E+03	+4.8000000E+03	+5.4961875E+03
34.0	6	+5.7166640E+03	+6.8239773E+02	+6.6000000E+03	+5.0000000E+03	+5.4913632E+03
38.0	1	+5.3000000E+03	+0.0000000E+59	+5.3000000E+03	+5.3000000E+03	+5.4720703E+03
40.0	2	+6.4100000E+03	+8.6267027E+02	+7.0200000E+03	+5.8000000E+03	+5.4624257E+03
41.0	4	+6.0250000E+03	+9.0691785E+02	+6.9000000E+03	+4.9000000E+03	+5.4576015E+03
45.0	7	+4.5314257E+03	+1.6618149E+03	+7.1000000E+03	+3.4360000E+03	+5.4383085E+03
46.0	5	+5.5243984E+03	+1.4906548E+03	+7.3000000E+03	+3.8780000E+03	+5.4334843E+03
47.0	2	+4.5210000E+03	+2.4039550E+02	+4.6910000E+03	+4.3510000E+03	+5.4286640E+03
48.0	4	+5.9500000E+03	+5.4467115E+02	+6.7000000E+03	+5.5000000E+03	+5.4238398E+03
50.0	2	+5.0500000E+03	+4.9497474E+02	+5.4000000E+03	+4.7000000E+03	+5.4141953E+03
52.0	3	+4.2466640E+03	+1.1746205E+02	+4.3280000E+03	+4.1120000E+03	+5.4045468E+03
53.0	7	+4.1638554E+03	+2.1968760E+02	+4.4870000E+03	+3.7970000E+03	+5.3997226E+03
54.0	14	+5.2942851E+03	+1.9245015E+03	+8.3000000E+03	+2.6400000E+03	+5.3949023E+03
55.0	8	+5.8352500E+03	+1.7437488E+03	+7.4000000E+03	+3.1590000E+03	+5.3900781E+03
56.0	6	+4.8760000E+03	+1.1950484E+03	+6.6000000E+03	+3.6080000E+03	+5.3852539E+03
60.0	2	+4.9000000E+03	+0.0000000E+11	+4.9000000E+03	+4.9000000E+03	+5.3659609E+03
61.0	2	+5.1000000E+03	+1.4142135E+02	+5.2000000E+03	+5.0000000E+03	+5.3611406E+03
62.0	2	+6.5000000E+03	+1.4142135E+02	+6.6000000E+03	+6.4000000E+03	+5.3563164E+03
64.0	2	+6.1500000E+03	+3.5355339E+02	+6.4000000E+03	+5.9000000E+03	+5.3466679E+03
65.0	2	+5.5500000E+03	+7.0710678E+01	+5.6000000E+03	+5.5000000E+03	+5.3418476E+03
67.0	4	+7.6750000E+03	+3.5939764E+02	+8.2000000E+03	+7.4000000E+03	+5.3321992E+03
69.0	4	+6.2785000E+03	+1.5307405E+02	+6.4120000E+03	+6.1000000E+03	+5.3225546E+03
70.0	7	+6.2445703E+03	+8.4106417E+02	+7.5000000E+03	+5.2000000E+03	+5.3177304E+03
71.0	2	+4.8605000E+03	+1.9301683E+02	+4.9970000E+03	+4.7240000E+03	+5.3129062E+03
72.0	8	+5.2753750E+03	+1.6119023E+03	+7.7000000E+03	+3.5840000E+03	+5.3080859E+03
73.0	4	+4.9560000E+03	+1.4768669E+03	+6.9500000E+03	+3.7950000E+03	+5.3032617E+03
75.0	2	+5.2500000E+03	+7.0710678E+01	+5.3000000E+03	+5.2000000E+03	+5.2936132E+03

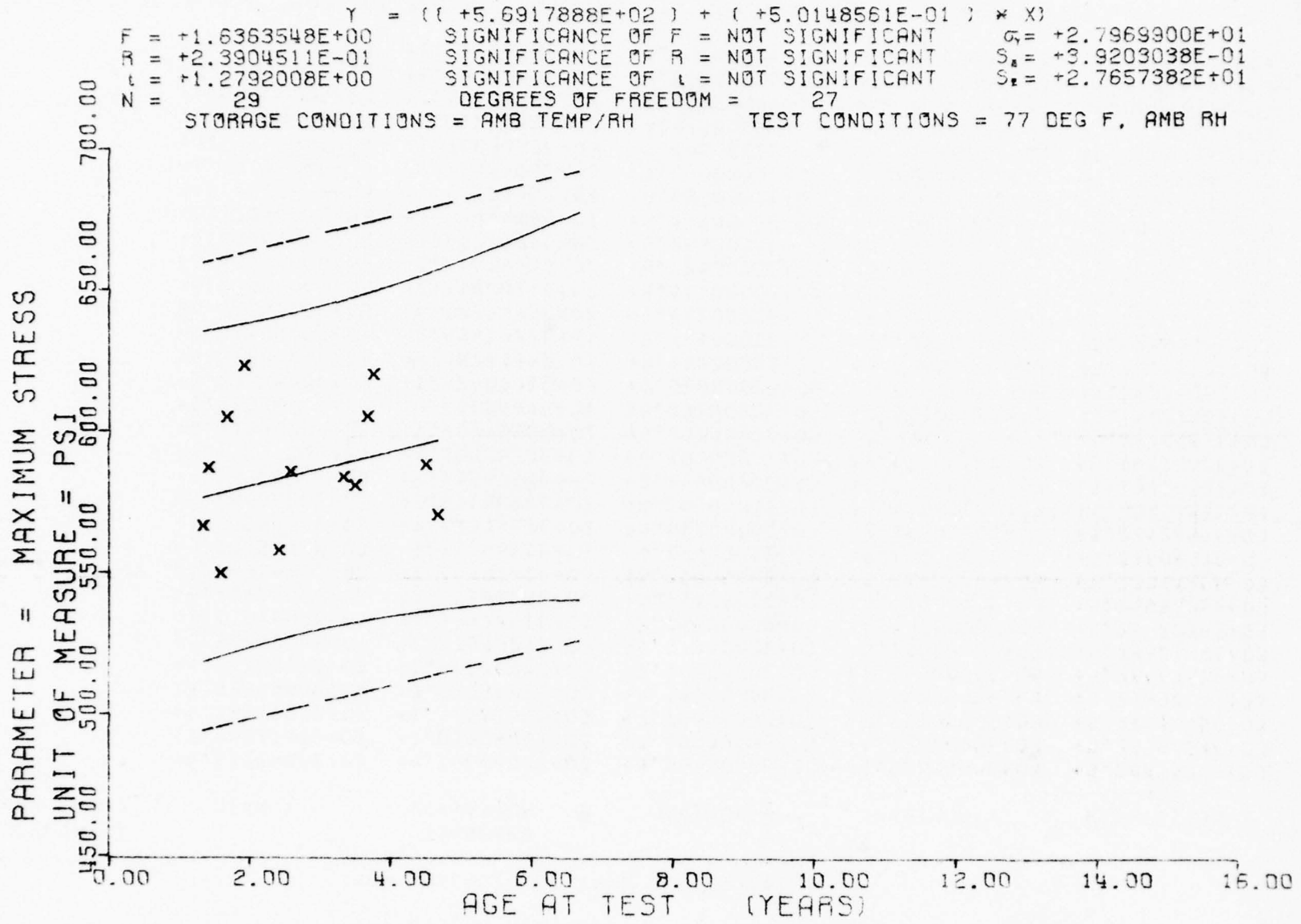
ANB 3066 PROPELLANT (ANB, G) TENSILE MODULUS, 1750 IN/MIN, 600 PSI, UNLND CTNS

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
76.0	4	+5.1397500E+03	+4.1260463E+02	+5.5440000E+03	+4.5680000E+03	+5.2887929E+03
77.0	9	+5.4882187E+03	+1.0590901E+03	+7.6000000E+03	+4.3260000E+03	+5.2839687E+03
78.0	9	+5.2352187E+03	+1.5058234E+03	+7.7000000E+03	+3.6510000E+03	+5.2791445E+03
80.0	2	+3.8705000E+03	+3.0475481E+02	+4.0860000E+03	+3.6550000E+03	+5.2695000E+03
81.0	9	+4.7378867E+03	+1.9012890E+03	+7.7000000E+03	+2.6350000E+03	+5.2646757E+03
83.0	2	+5.3665000E+03	+2.9769027E+02	+5.5770000E+03	+5.1560000E+03	+5.2550312E+03
84.0	6	+6.1101640E+03	+1.1847251E+03	+7.7660000E+03	+4.3800000E+03	+5.2502070E+03
85.0	2	+6.4145000E+03	+2.1213203E+00	+6.4160000E+03	+6.4130000E+03	+5.2453828E+03
88.0	6	+4.6621640E+03	+1.1449321E+03	+6.7000000E+03	+3.6620000E+03	+5.2309140E+03
89.0	3	+3.7913332E+03	+5.9438651E+02	+4.1790000E+03	+3.1070000E+03	+5.2260898E+03
90.0	4	+3.4955000E+03	+9.2335312E+02	+4.4110000E+03	+2.3030000E+03	+5.2212695E+03
94.0	2	+8.1500000E+03	+7.0710678E+01	+8.2000000E+03	+8.1000000E+03	+5.2019765E+03
95.0	4	+3.2532500E+03	+7.8656759E+02	+3.9460000E+03	+2.5400000E+03	+5.1971523E+03
96.0	4	+4.2527500E+03	+1.9008620E+03	+6.4000000E+03	+2.5330000E+03	+5.1923281E+03
100.0	2	+3.1125000E+03	+1.6899556E+02	+3.2320000E+03	+2.9930000E+03	+5.1730351E+03
101.0	2	+5.7635000E+03	+9.6868467E+01	+5.8320000E+03	+5.6950000E+03	+5.1682148E+03
102.0	8	+5.2867500E+03	+1.5240931E+03	+7.5100000E+03	+3.6750000E+03	+5.1633906E+03
105.0	2	+4.8180000E+03	+9.3903354E+02	+5.4820000E+03	+4.1540000E+03	+5.1489218E+03
108.0	2	+5.2450000E+03	+8.4841027E+01	+5.3050000E+03	+5.1850000E+03	+5.1344531E+03
109.0	2	+6.6720000E+03	+6.2225396E+02	+7.1120000E+03	+6.2320000E+03	+5.1296289E+03
110.0	2	+6.0050000E+03	+2.2908077E+02	+6.1670000E+03	+5.8430000E+03	+5.1248046E+03
113.0	2	+6.0650000E+03	+2.2767959E+02	+6.2260000E+03	+5.9040000E+03	+5.1103359E+03
115.0	2	+6.0540000E+03	+1.1483379E+03	+6.8660000E+03	+5.2420000E+03	+5.1006875E+03
116.0	2	+6.2205000E+03	+4.0292679E+01	+6.2490000E+03	+6.1920000E+03	+5.0958671E+03
118.0	12	+4.2490000E+03	+1.1678706E+03	+6.8650000E+03	+3.1950000E+03	+5.0862187E+03
119.0	5	+5.5251992E+03	+1.7565495E+03	+7.0900000E+03	+3.4110000E+03	+5.0813984E+03
120.0	4	+5.4470000E+03	+1.7685063E+03	+7.1860000E+03	+3.9160000E+03	+5.0765742E+03
121.0	2	+3.8110000E+03	+1.6118932E+02	+3.9250000E+03	+3.6970000E+03	+5.0717500E+03
122.0	4	+6.4490000E+03	+2.6912946E+02	+6.6070000E+03	+6.0470000E+03	+5.0669257E+03
129.0	2	+7.4345000E+03	+1.6896005E+02	+7.5540000E+03	+7.3150000E+03	+5.0331640E+03
137.0	2	+4.3885000E+03	+2.4484689E+01	+4.4060000E+03	+4.3710000E+03	+4.9945820E+03

ANB 3066 PROPELLANT (ANB, G) TENSILE MODULUS, 1750 IN/MIN, 600 PSI, UNLND CTNS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F = +1.6363548E+00 SIGNIFICANCE OF F = NOT SIGNIFICANT σ = +2.7969900E+01
R = +2.3904511E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT S_a = +3.9203038E-01
t = +1.2792008E+00 SIGNIFICANCE OF t = NOT SIGNIFICANT S_z = +2.7657382E+01
N = 29 DEGREES OF FREEDOM = 27
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = MAXIMUM STRESS
UNIT OF MEASURE = PSI
450.00
500.00
550.00
600.00
650.00
700.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3065 PROPLLNT (ANB G POLYMER) TENSILE SM, 1750 IN/MIN, 600 PSI, 77 DEG, LND

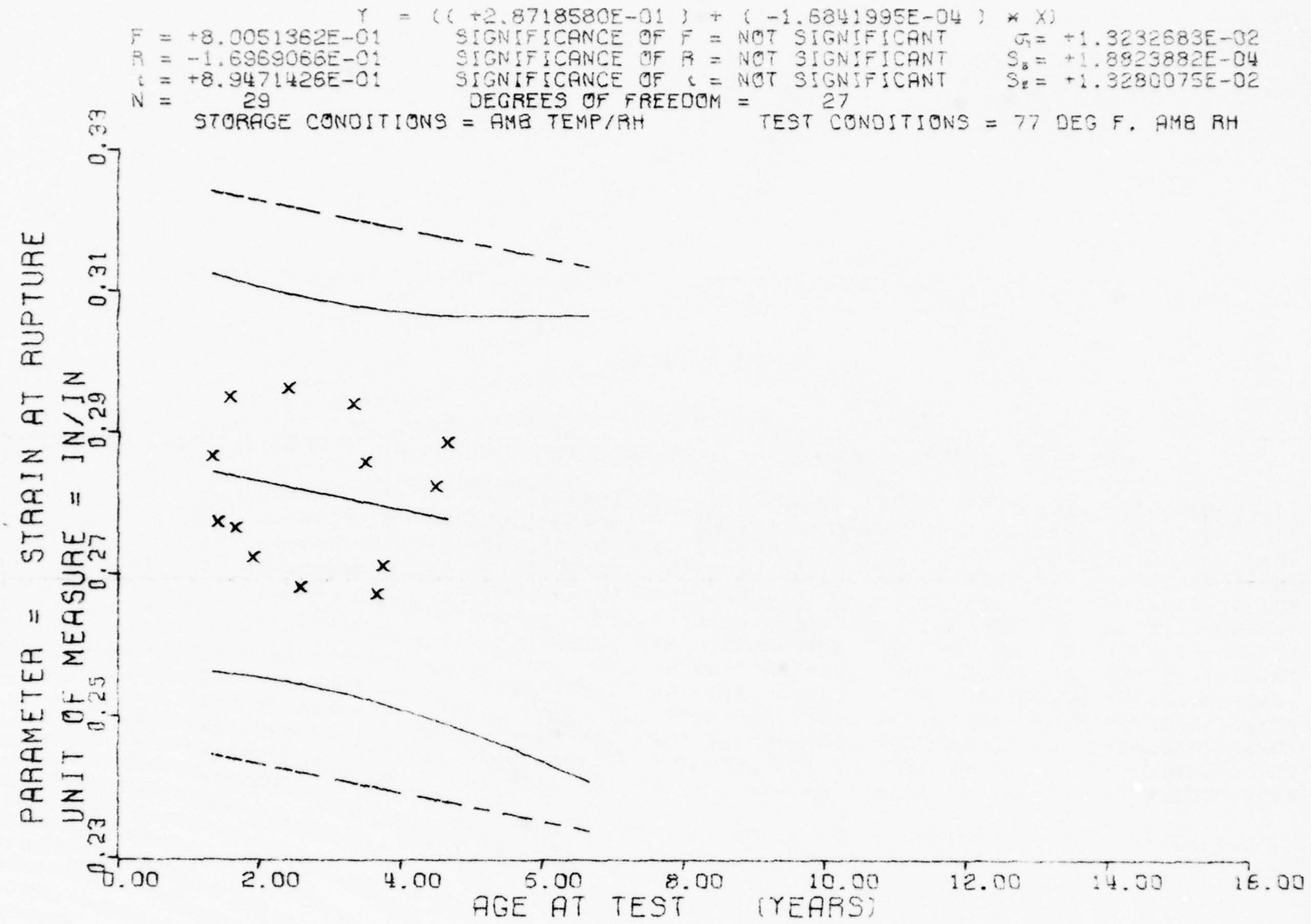
Figure 5-7

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
16.0	2	+5.6687475E+02	+1.0785277E+01	+5.7373999E+02	+5.5600976E+02	+5.7720263E+02
17.0	2	+5.8746484E+02	+2.6346056E+01	+6.0608984E+02	+5.6883984E+02	+5.7770410E+02
19.0	4	+5.5024487E+02	+2.0439493E+01	+5.7764990E+02	+5.3089990E+02	+5.7870703E+02
20.0	2	+6.0524975E+02	+3.4397245E+01	+6.2956982E+02	+5.8092993E+02	+5.7920849E+02
23.0	2	+6.2350976E+02	+2.4626507E+01	+6.4091992E+02	+6.0609985E+02	+5.8071289E+02
29.0	2	+5.5824487E+02	+1.5065147E+01	+5.6952978E+02	+5.4695996E+02	+5.8372192E+02
31.0	2	+5.8602978E+02	+2.7153030E+01	+5.0522998E+02	+5.6682983E+02	+5.8472485E+02
40.0	2	+5.8419432E+02	+1.6422232E+01	+5.9579960E+02	+5.7258984E+02	+5.8923828E+02
42.0	2	+5.8129467E+02	+2.0566026E+01	+5.9582983E+02	+5.6675976E+02	+5.9024121E+02
44.0	4	+6.0552490E+02	+1.4357002E+01	+6.2364990E+02	+5.8869995E+02	+5.9124414E+02
45.0	2	+6.2038476E+02	+4.0843696E+00	+6.2325000E+02	+6.1751977E+02	+5.9174560E+02
54.0	1	+5.8851977E+02	+0.0000000E+99	+5.8851977E+02	+5.8851977E+02	+5.9625903E+02
56.0	2	+5.7074487E+02	+1.4752704E+01	+5.8116992E+02	+5.6031982E+02	+5.9726196E+02

ANB 3066 PROPELLNT (ANB G POLYMER) TENSILE SM, 1750 IN/MIN, 600 PSI, 77 DEG, LND



ANB 3066 PROPLLNT (ANB G POLYMER) TENSILE ER, 1750 IN/MIN, 600 PSI, 77 DEG, LNO

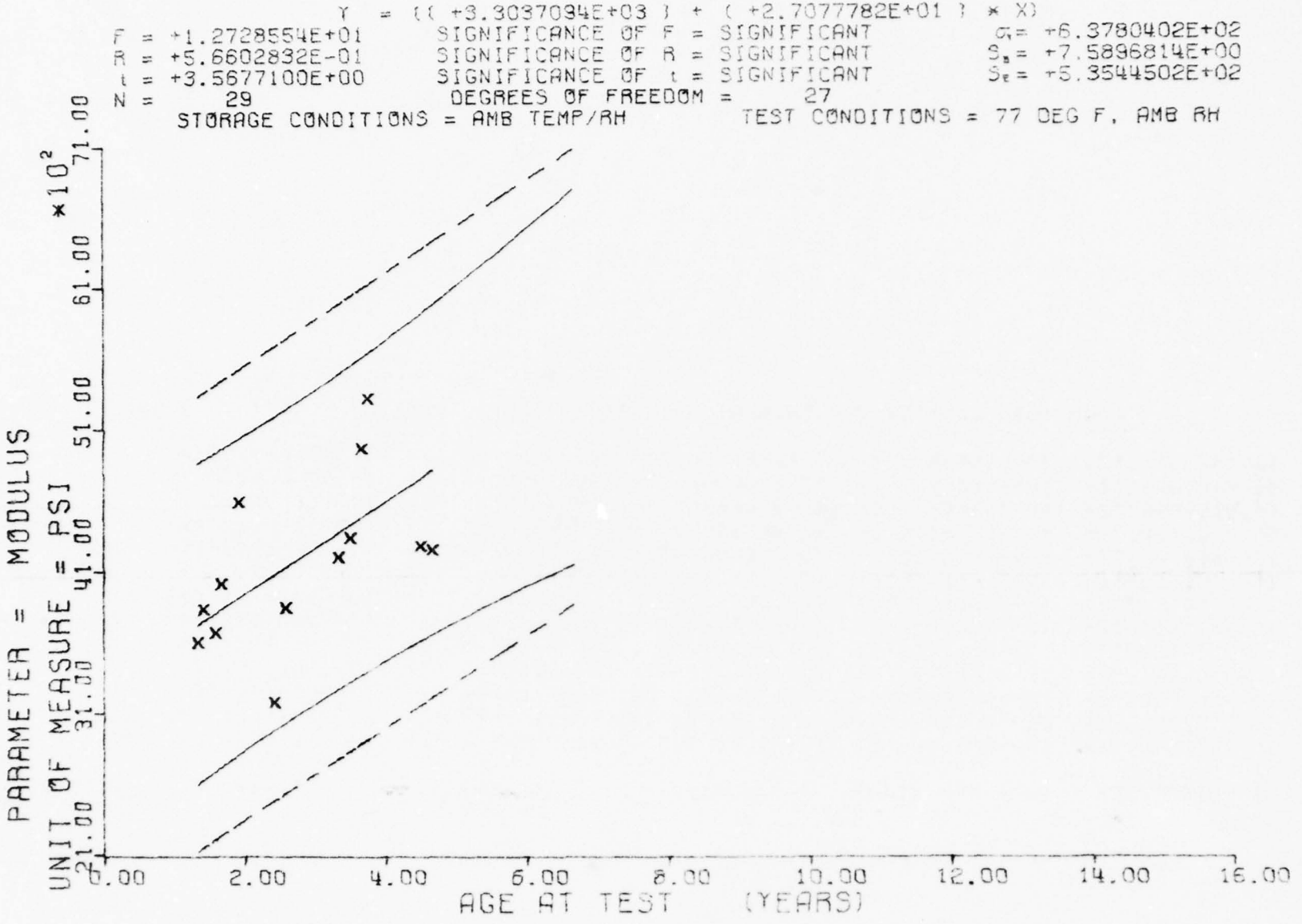
Figure 5-8

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
16.0	2	+2.8679999E-01	+6.0805544E-03	+2.9109995E-01	+2.8249996E-01	+2.8449106E-01
17.0	2	+2.7754998E-01	+1.4675953E-03	+2.7859997E-01	+2.7649998E-01	+2.8432261E-01
19.0	4	+2.9517483E-01	+3.1754497E-03	+2.9789996E-01	+2.9129999E-01	+2.8398579E-01
20.0	2	+2.7669996E-01	+2.2626052E-02	+2.9269999E-01	+2.6069998E-01	+2.8381735E-01
23.0	2	+2.7254998E-01	+7.5624794E-03	+2.7789998E-01	+2.6719999E-01	+2.8331214E-01
29.0	2	+2.9634994E-01	+2.8974086E-03	+2.9839996E-01	+2.9429996E-01	+2.8230160E-01
31.0	2	+2.6834994E-01	+4.1718634E-03	+2.7129995E-01	+2.6539999E-01	+2.8196477E-01
40.0	2	+2.9414993E-01	+1.8193628E-02	+3.0559998E-01	+2.8269994E-01	+2.8044897E-01
42.0	2	+2.8539993E-01	+4.2447630E-03	+2.8889995E-01	+2.8289997E-01	+2.8011214E-01
44.0	4	+2.6737475E-01	+1.3101230E-02	+2.8259998E-01	+2.5619995E-01	+2.7977532E-01
45.0	2	+2.7134996E-01	+1.1807885E-02	+2.7969998E-01	+2.6299995E-01	+2.7960687E-01
54.0	1	+2.8249996E-01	+0.0000000E+99	+2.8249996E-01	+2.8249996E-01	+2.7809107E-01
56.0	2	+2.8864991E-01	+3.3231242E-03	+2.9099994E-01	+2.8629994E-01	+2.7775424E-01

ANB 3065 PROPELLANT (ANB G POLYMER) TENSILE ER, 1750 IN/MIN, 600 PSI, 77 DEG, LND



ANB 3066 PROPLLNT (ANB G POLYMER) TENSILE MOD 1750 IN/MIN 77 DEG 600 PSI LINED

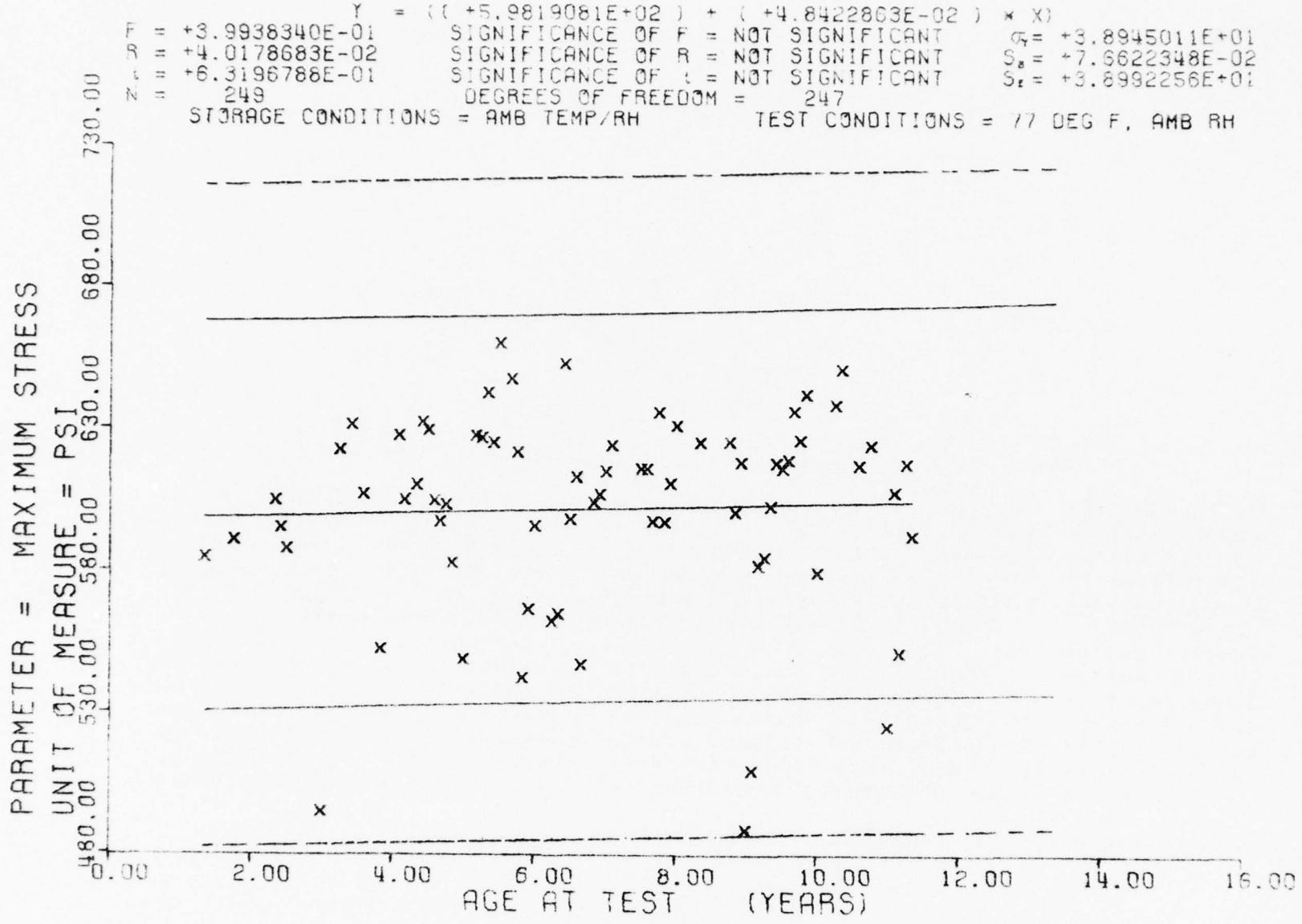
Figure 5-9

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
16.0	2	+3.6110000E+03	+2.6445037E+02	+3.7980000E+03	+3.4240000E+03	+3.7369538E+03
17.0	2	+3.8435000E+03	+1.2796679E+02	+3.9340000E+03	+3.7530000E+03	+3.7640314E+03
19.0	4	+3.6770000E+03	+3.0727837E+02	+3.9280000E+03	+3.2300000E+03	+3.8181872E+03
20.0	2	+4.0195000E+03	+2.8211965E+02	+4.2190000E+03	+3.8200000E+03	+3.8452648E+03
23.0	2	+4.5270000E+03	+1.0947823E+02	+4.7310000E+03	+4.4630000E+03	+3.9264982E+03
29.0	2	+3.1885000E+03	+1.3783867E+02	+3.2860000E+03	+3.0910000E+03	+4.0889650E+03
31.0	2	+3.8525000E+03	+3.3586827E+02	+4.0900000E+03	+3.6150000E+03	+4.1431171E+03
40.0	2	+4.2070000E+03	+2.4605283E+02	+4.3810000E+03	+4.0330000E+03	+4.3868203E+03
42.0	2	+4.3415000E+03	+6.1730017E+02	+4.7780000E+03	+3.9050000E+03	+4.4409726E+03
44.0	4	+4.9737500E+03	+4.4959676E+02	+5.3560000E+03	+4.3720000E+03	+4.4951289E+03
45.0	2	+5.3250000E+03	+7.6302031E+01	+5.3790000E+03	+5.2710000E+03	+4.5222070E+03
54.0	1	+4.2840000E+03	+0.0000000E+99	+4.2840000E+03	+4.2840000E+03	+4.7659062E+03
56.0	2	+4.2555000E+03	+1.9019858E+02	+4.3900000E+03	+4.1210000E+03	+4.8200625E+03

ANB 3066 PROPELLNT (ANB G POLYMER) TENSILE MOD 1750 IN/MIN 77 DEG 600 PSI LINED



ANB 3066 PROPELLANT (ANB P) TENSILE MAX STRESS, 1750 IN/MIN, 600 PSI UNLND CTNS

Figure 5-10

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
16.0	8	+5.8472949E+02	+2.5755353E+01	+6.2000000E+02	+5.3979980E+02	+5.9896557E+02
21.0	2	+5.9086987E+02	+2.6774965E+01	+6.0979980E+02	+5.7193994E+02	+5.9920751E+02
28.0	6	+6.0484985E+02	+1.5906239E+01	+6.2038989E+02	+5.8370996E+02	+5.9954663E+02
29.0	2	+5.9525488E+02	+2.7530646E+01	+6.1471997E+02	+5.7578979E+02	+5.9959497E+02
30.0	4	+5.8786987E+02	+1.7224492E+01	+6.0767993E+02	+5.6721997E+02	+5.9964331E+02
36.0	2	+4.9500000E+02	+1.4142135E+01	+5.0500000E+02	+4.8500000E+02	+5.9993383E+02
39.0	4	+6.2250000E+02	+2.5000000E+01	+6.5000000E+02	+5.9000000E+02	+6.0007910E+02
41.0	2	+6.3127978E+02	+6.5608661E+00	+6.3590991E+02	+6.2664990E+02	+6.0017602E+02
43.0	2	+6.0702490E+02	+6.4302697E+00	+6.1155981E+02	+6.0248999E+02	+6.0027294E+02
46.0	2	+5.5250000E+02	+3.1819805E+01	+5.7500000E+02	+5.3000000E+02	+6.0041821E+02
49.0	2	+6.2750000E+02	+2.4748737E+01	+6.4500000E+02	+6.1000000E+02	+6.0056347E+02
50.0	2	+6.0500000E+02	+2.1213203E+01	+6.2000000E+02	+5.9000000E+02	+6.0061181E+02
52.0	2	+6.1019995E+02	+7.3850646E+00	+6.1541992E+02	+6.0497998E+02	+6.0070874E+02
53.0	2	+6.3229980E+02	+8.1571431E+00	+6.3804980E+02	+6.2654980E+02	+6.0075708E+02
54.0	2	+6.2936987E+02	+7.3015958E+00	+6.3451977E+02	+6.2421997E+02	+6.0080541E+02
55.0	4	+6.0473730E+02	+1.1424807E+01	+6.2000000E+02	+5.9308984E+02	+6.0085400E+02
56.0	2	+5.9739990E+02	+1.5222133E+01	+6.0815991E+02	+5.8663989E+02	+6.0090234E+02
57.0	6	+6.0331494E+02	+4.7557310E+01	+6.4500000E+02	+5.3694995E+02	+6.0095068E+02
58.0	5	+5.8289575E+02	+3.6655740E+01	+6.2000000E+02	+5.3619995E+02	+6.0099926E+02
60.0	2	+5.4885986E+02	+2.7068117E+01	+5.6800000E+02	+5.2971997E+02	+6.0109594E+02
62.0	2	+6.2753491E+02	+1.2869272E+01	+6.3662988E+02	+6.1843994E+02	+6.0119287E+02
63.0	6	+6.2679467E+02	+4.1245974E+00	+6.3055981E+02	+6.2000000E+02	+6.0124121E+02
64.0	2	+6.4250000E+02	+3.8890872E+01	+6.7000000E+02	+6.1500000E+02	+6.0128979E+02
65.0	2	+6.2500000E+02	+7.0710678E+00	+6.3000000E+02	+6.2000000E+02	+6.0133813E+02
66.0	2	+6.6000000E+02	+7.0710678E+00	+6.6500000E+02	+6.5500000E+02	+6.0138671E+02
68.0	4	+6.4750000E+02	+1.1902380E+01	+6.6500000E+02	+6.4000000E+02	+6.0148339E+02
69.0	8	+6.2169482E+02	+2.3710649E+01	+6.5000000E+02	+5.8655981E+02	+6.0153198E+02
70.0	2	+5.4250000E+02	+3.5355339E+00	+5.4500000E+02	+5.4000000E+02	+6.0158032E+02
71.0	3	+5.6663305E+02	+2.6665253E+01	+5.9736987E+02	+5.4973999E+02	+6.0162866E+02
72.0	11	+5.9538549E+02	+3.1588239E+01	+6.6000000E+02	+5.5650000E+02	+6.0167724E+02
75.0	3	+5.6241308E+02	+5.0057220E+01	+5.9689990E+02	+5.0500000E+02	+6.0182250E+02

AMB 3066 PROPELLANT (AMB P) TENSILE MAX STRESS, 1750 IN/MIN, 600 PSI UNLND CTNS

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
76.0	1	+5.6500000E+02	+0.0000000E+15	+5.6500000E+02	+5.6500000E+02	+6.0187084E+02
77.0	2	+6.5276489E+02	+3.2388323E+00	+6.5502978E+02	+6.5050000E+02	+6.0191918E+02
78.0	6	+5.9831152E+02	+2.1838650E+01	+6.1955981E+02	+5.6017993E+02	+6.0196777E+02
79.0	2	+6.1315991E+02	+1.2689833E+01	+6.2212988E+02	+6.0418994E+02	+6.0201611E+02
80.0	5	+5.4708789E+02	+3.3670830E+01	+5.8122998E+02	+4.9298999E+02	+6.0206445E+02
82.0	3	+6.0410302E+02	+1.3874565E+01	+6.1401977E+02	+5.8823999E+02	+6.0216137E+02
83.0	4	+6.0700000E+02	+6.6503132E+01	+6.7000000E+02	+5.4000000E+02	+6.0220971E+02
84.0	4	+6.1498486E+02	+5.0761440E+01	+6.6000000E+02	+5.5685986E+02	+6.0225830E+02
85.0	2	+6.2420996E+02	+4.1951558E+00	+6.2716992E+02	+6.2125000E+02	+6.0230664E+02
90.0	2	+6.1603491E+02	+1.0789421E+01	+6.2365991E+02	+6.0840991E+02	+6.0254882E+02
91.0	2	+6.1595483E+02	+6.6546962E+00	+6.2063989E+02	+6.1126977E+02	+6.0259716E+02
92.0	4	+5.9749218E+02	+5.7932340E+01	+6.3471997E+02	+5.1226977E+02	+6.0264550E+02
93.0	2	+6.3590991E+02	+1.3554698E+01	+6.4548999E+02	+6.2632983E+02	+6.0269409E+02
94.0	4	+5.9723730E+02	+6.6109993E+00	+6.0251977E+02	+5.8779980E+02	+6.0274243E+02
95.0	4	+6.1089721E+02	+1.7073050E+01	+6.2501977E+02	+5.8860986E+02	+6.0279077E+02
96.0	3	+6.3111987E+02	+3.9381527E+01	+6.5773999E+02	+5.8587988E+02	+6.0283935E+02
100.0	2	+6.2530981E+02	+1.4655342E+01	+6.3566992E+02	+6.1494995E+02	+6.0303295E+02
105.0	2	+6.2546484E+02	+1.0686836E+01	+6.3300976E+02	+6.1791992E+02	+6.0327514E+02
106.0	4	+6.0073974E+02	+1.8234063E+01	+6.2311987E+02	+5.8406982E+02	+6.0332348E+02
107.0	4	+6.1819726E+02	+1.8964522E+01	+6.4285986E+02	+5.9841992E+02	+6.0337182E+02
108.0	2	+4.8874975E+02	+5.0671636E+00	+4.9231982E+02	+4.8517993E+02	+6.0342041E+02
109.0	3	+5.0982324E+02	+2.4066680E+01	+5.3358984E+02	+4.8546997E+02	+6.0346875E+02
110.0	8	+5.8195703E+02	+2.0018242E+01	+6.2064990E+02	+5.5721997E+02	+6.0351708E+02
111.0	4	+5.8491235E+02	+1.7050462E+01	+5.9637988E+02	+5.6028979E+02	+6.0356567E+02
112.0	6	+6.0272485E+02	+3.7483893E+01	+6.5906982E+02	+5.5789990E+02	+6.0361401E+02
113.0	5	+6.1791967E+02	+1.8385812E+01	+6.5032983E+02	+6.0630981E+02	+6.0366235E+02
114.0	2	+6.1582983E+02	+8.3474817E+00	+6.2172998E+02	+6.0992993E+02	+6.0371093E+02
115.0	2	+6.1888989E+02	+2.2362954E+01	+6.3469995E+02	+6.0307983E+02	+6.0375927E+02
116.0	2	+6.3606982E+02	+4.9731715E+00	+6.3955981E+02	+6.3257983E+02	+6.0380786E+02
117.0	4	+6.2582714E+02	+1.0795128E+01	+6.4103979E+02	+6.1681982E+02	+6.0385620E+02
118.0	2	+6.4195483E+02	+2.4584128E+00	+6.4367993E+02	+6.4022998E+02	+6.0390454E+02

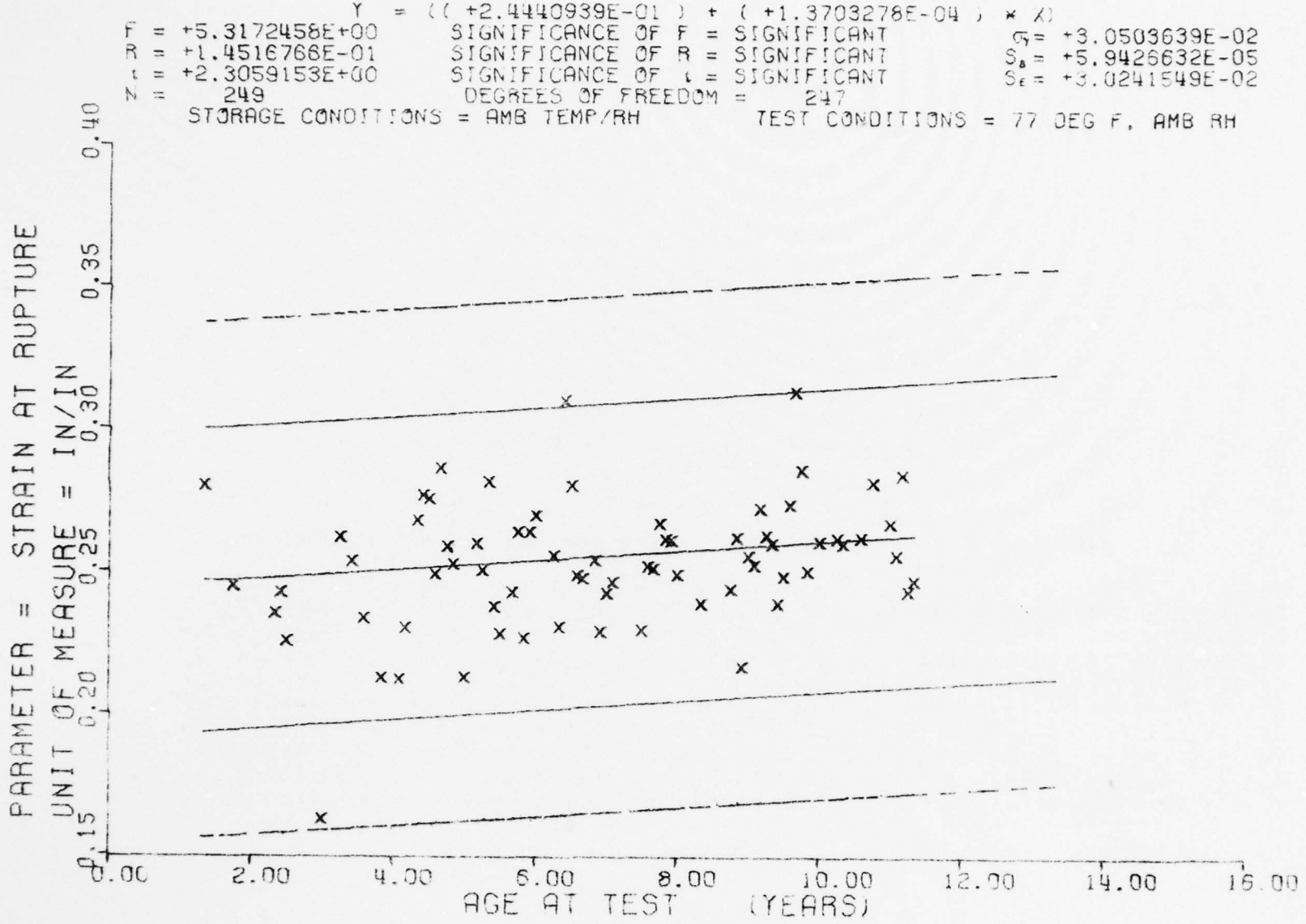
AMR 3666 PROPELLANT (ANB 3) TENSILE MAX STRESS, 1750 IN/MIN, 600 PSI UNLND CTNS

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
120.0	2	+5.7945971E+02	+8.7694230E+00	+5.8564990E+02	+5.7326977E+02	+6.0400146E+02
123.0	7	+6.3833813E+02	+1.8205622E+01	+6.6842993E+02	+6.0647998E+02	+6.0414672E+02
124.0	4	+6.5104980E+02	+1.7524167E+01	+6.7009985E+02	+6.3169995E+02	+6.0419506E+02
127.0	6	+6.1718139E+02	+2.1838212E+01	+6.5418994E+02	+5.9131982E+02	+6.0434033E+02
129.0	4	+6.2419482E+02	+4.6788926E+00	+6.2998999E+02	+6.1848999E+02	+6.0443725E+02
132.0	4	+5.2535986E+02	+1.2982311E+00	+5.2700976E+02	+5.2393994E+02	+6.0458251E+02
133.0	2	+6.0781982E+02	+5.6046416E+01	+6.4744995E+02	+5.6818994E+02	+6.0463085E+02
134.0	4	+5.5137988E+02	+4.5319716E+01	+5.9523999E+02	+5.0700000E+02	+6.0467944E+02
135.0	4	+6.1776977E+02	+1.8409388E+01	+6.3975976E+02	+5.9706982E+02	+6.0472778E+02
136.0	2	+5.9254492E+02	+1.5308887E+00	+5.9359985E+02	+5.9148999E+02	+6.0477612E+02

ANB 3066 PROPELLANT (ANB P) TENSILE MAX STRESS, 1750 IN/MIN, 600 PSI UNLVD CTNS



ANB 3066 PROPELLANT (ANB, P) TENSILE STN @ RUPT, 1750 IN/MIN, 600 PSI, UNLND CT

Figure 5-11

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
16.0	8	+2.8012466E-01	+1.8746900E-02	+3.0199998E-01	+2.5399994E-01	+2.4660187E-01
21.0	2	+2.4524998E-01	+1.1665027E-02	+2.5349998E-01	+2.3699998E-01	+2.4728703E-01
28.0	6	+2.3558312E-01	+1.9907140E-02	+2.7399998E-01	+2.1599996E-01	+2.4824631E-01
29.0	2	+2.4304991E-01	+1.0958388E-02	+2.5079995E-01	+2.3529994E-01	+2.4838334E-01
30.0	4	+2.2594994E-01	+3.6582398E-02	+2.7769994E-01	+1.9289994E-01	+2.4852037E-01
36.0	2	+1.6299998E-01	+5.8189520E-05	+1.6299998E-01	+1.6299998E-01	+2.4934256E-01
39.0	4	+2.6224994E-01	+1.9137969E-02	+2.7699995E-01	+2.3499995E-01	+2.4975365E-01
41.0	2	+2.5369995E-01	+2.0930200E-02	+2.6849997E-01	+2.3889994E-01	+2.5002771E-01
43.0	2	+2.3384994E-01	+1.6333207E-02	+2.4539995E-01	+2.2229999E-01	+2.5030177E-01
46.0	2	+2.1299993E-01	+1.9798596E-02	+2.2699999E-01	+1.9899994E-01	+2.5071287E-01
49.0	2	+2.1249991E-01	+1.3435378E-02	+2.2199994E-01	+2.0299994E-01	+2.5112396E-01
50.0	2	+2.3049998E-01	+1.4848296E-02	+2.4099999E-01	+2.1999996E-01	+2.5126099E-01
52.0	2	+2.6794993E-01	+5.7267292E-03	+2.7199995E-01	+2.6389998E-01	+2.5153505E-01
53.0	2	+2.7689993E-01	+8.2041535E-03	+2.8269994E-01	+2.7109998E-01	+2.5167208E-01
54.0	2	+2.7559995E-01	+1.3858697E-02	+2.8539997E-01	+2.6579999E-01	+2.5180912E-01
55.0	4	+2.4924993E-01	+3.5112919E-02	+2.8599995E-01	+2.0899999E-01	+2.5194615E-01
56.0	2	+2.8629994E-01	+1.3717134E-02	+2.9539994E-01	+2.7659994E-01	+2.5208318E-01
57.0	6	+2.5904971E-01	+3.5966465E-02	+3.0219995E-01	+2.0499998E-01	+2.5222021E-01
58.0	5	+2.5283980E-01	+2.5936847E-02	+2.7629995E-01	+2.2199994E-01	+2.5235724E-01
60.0	2	+2.1314996E-01	+5.6356094E-02	+2.5299996E-01	+1.7329996E-01	+2.5263130E-01
62.0	2	+2.5994992E-01	+2.1142576E-02	+2.7489995E-01	+2.4499994E-01	+2.5290542E-01
63.0	6	+2.5061637E-01	+3.9392186E-02	+2.8149998E-01	+1.7799997E-01	+2.5304245E-01
64.0	2	+2.8149998E-01	+1.0604399E-02	+2.8899997E-01	+2.7399998E-01	+2.5317949E-01
65.0	2	+2.3799997E-01	+1.4141501E-02	+2.4799996E-01	+2.2799998E-01	+2.5331652E-01
66.0	2	+2.2849994E-01	+1.7677759E-02	+2.4099999E-01	+2.1599996E-01	+2.5345355E-01
68.0	4	+2.4299991E-01	+9.1285137E-03	+2.5399994E-01	+2.3499995E-01	+2.5372761E-01
69.0	8	+2.6399970E-01	+3.3871685E-02	+2.9999995E-01	+1.9599997E-01	+2.5386464E-01
70.0	2	+2.2699999E-01	+1.3315672E-04	+2.2699999E-01	+2.2699999E-01	+2.5400167E-01
71.0	3	+2.6403331E-01	+3.2855735E-02	+2.8539997E-01	+2.2619998E-01	+2.5413870E-01
72.0	11	+2.6991772E-01	+2.3643627E-02	+3.1399995E-01	+2.3599994E-01	+2.5427573E-01
75.0	3	+2.5569993E-01	+7.2492345E-02	+2.9849994E-01	+1.7199999E-01	+2.5468683E-01

ANB 3066 PROPELLANT (ANB, P) TENSILE STN @ RUPT, 1750 IN/MIN, 600 PSI, UNLND CT

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
76.0	1	+2.3099994E-01	+0.0000000E+15	+2.3099994E-01	+2.3099994E-01	+2.5482386E-01
77.0	2	+3.0969995E-01	+3.6747417E-03	+3.1229996E-01	+3.0709999E-01	+2.5496089E-01
78.0	6	+2.8011637E-01	+4.2803727E-02	+3.1829994E-01	+2.0989996E-01	+2.5509792E-01
79.0	2	+2.4869996E-01	+1.1877365E-02	+2.5709998E-01	+2.4029999E-01	+2.5523495E-01
80.0	5	+2.4769991E-01	+3.8678805E-02	+2.7529996E-01	+1.8029999E-01	+2.5537198E-01
82.0	3	+2.5416666E-01	+1.3148155E-02	+2.6579999E-01	+2.3989999E-01	+2.5564604E-01
83.0	4	+2.2924995E-01	+5.2948665E-02	+2.8899997E-01	+1.7799997E-01	+2.5578308E-01
84.0	4	+2.4267494E-01	+2.3524100E-02	+2.7699995E-01	+2.2359997E-01	+2.5592011E-01
85.0	2	+2.4644994E-01	+1.0113782E-02	+2.5359994E-01	+2.3929995E-01	+2.5605714E-01
90.0	2	+2.2974997E-01	+1.2656649E-02	+2.3869997E-01	+2.2079998E-01	+2.5674229E-01
91.0	2	+2.5194996E-01	+2.8355452E-02	+2.7199995E-01	+2.3189997E-01	+2.5687932E-01
92.0	4	+2.5124979E-01	+1.8043945E-02	+2.7549999E-01	+2.3279994E-01	+2.5701636E-01
93.0	2	+2.6699995E-01	+2.1777583E-02	+2.8239995E-01	+2.5159996E-01	+2.5715339E-01
94.0	4	+2.6149988E-01	+1.8315990E-02	+2.8309994E-01	+2.4599999E-01	+2.5729042E-01
95.0	4	+2.6109981E-01	+2.0136196E-02	+2.8289997E-01	+2.3449999E-01	+2.5742745E-01
96.0	3	+2.4909996E-01	+1.6213978E-02	+2.6749998E-01	+2.3689997E-01	+2.5756454E-01
100.0	2	+2.3894995E-01	+1.3080124E-02	+2.4819999E-01	+2.2969996E-01	+2.5811266E-01
105.0	2	+2.4404996E-01	+5.7259995E-03	+2.4809998E-01	+2.3999994E-01	+2.5879782E-01
106.0	4	+2.6199984E-01	+1.1823039E-02	+2.7969998E-01	+2.5529998E-01	+2.5893485E-01
107.0	4	+2.1684992E-01	+3.7655718E-02	+2.5699996E-01	+1.6899996E-01	+2.5907188E-01
108.0	2	+2.5544995E-01	+1.7324297E-02	+2.6769995E-01	+2.4319994E-01	+2.5920891E-01
109.0	3	+2.5236660E-01	+1.9728064E-03	+2.5449997E-01	+2.5059998E-01	+2.5934594E-01
110.0	8	+2.7227473E-01	+2.1920284E-02	+3.1689995E-01	+2.3899996E-01	+2.5948297E-01
111.0	4	+2.6274991E-01	+1.1956053E-02	+2.7029997E-01	+2.4489998E-01	+2.5962001E-01
112.0	6	+2.5991642E-01	+4.4334370E-02	+3.0509996E-01	+1.8979996E-01	+2.5975704E-01
113.0	5	+2.3895984E-01	+3.3349246E-02	+2.8399997E-01	+1.9169998E-01	+2.5989407E-01
114.0	2	+2.4849992E-01	+2.0930696E-02	+2.6329994E-01	+2.3369997E-01	+2.6003110E-01
115.0	2	+2.7349996E-01	+1.9090827E-02	+2.8699994E-01	+2.5999999E-01	+2.6016813E-01
116.0	2	+3.1289994E-01	+8.3419922E-03	+3.1879997E-01	+3.0699998E-01	+2.6030516E-01
117.0	4	+2.8544974E-01	+1.6110410E-02	+3.0699998E-01	+2.7049994E-01	+2.6044219E-01
118.0	2	+2.5019997E-01	+1.0322438E-02	+2.5749999E-01	+2.4289995E-01	+2.6057922E-01

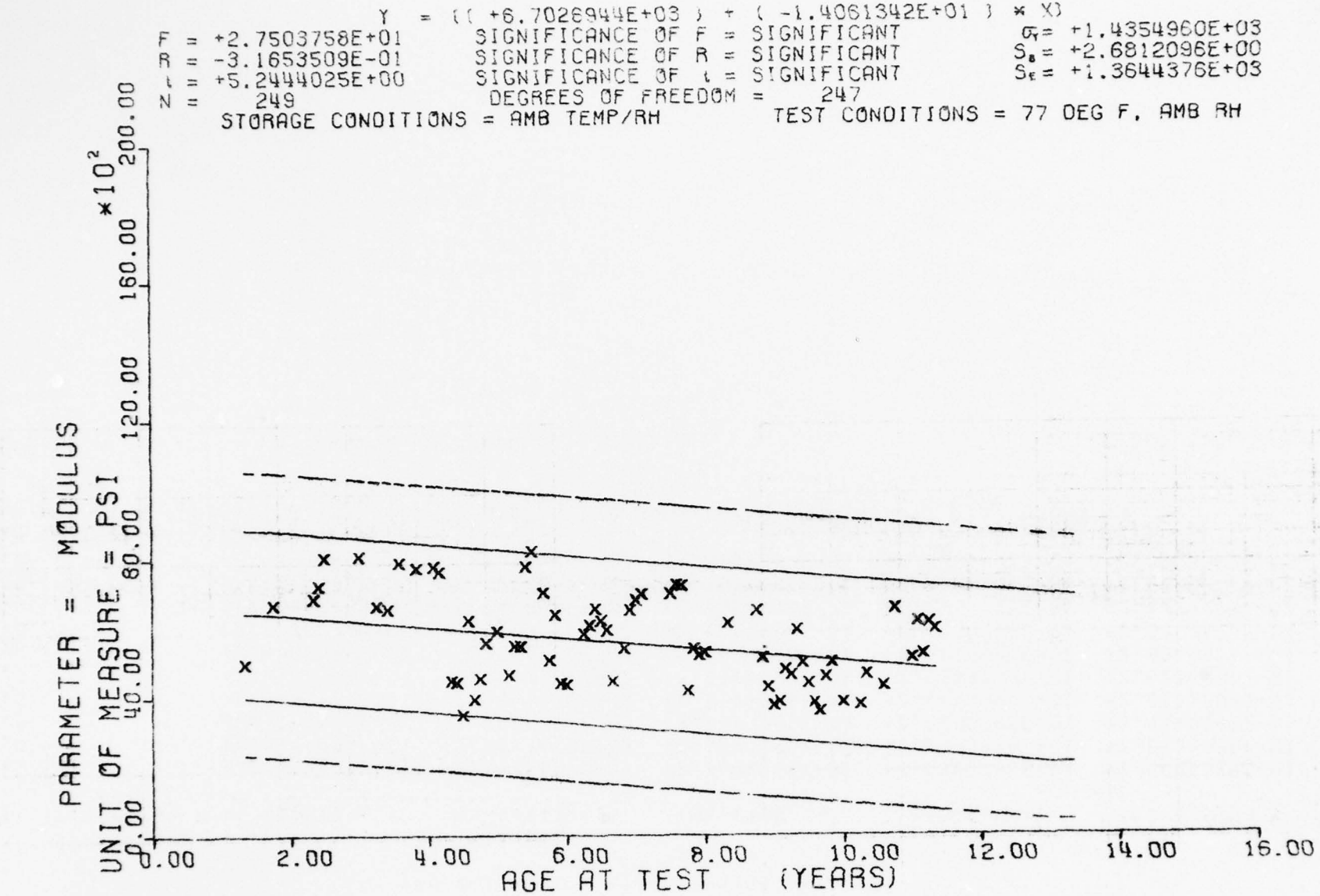
ANB 3066 PROPELLANT (ANB, PI TENSILE STN @ RUPT, 1750 IN/MIN, 600 PSI, UNLND CT

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
120.0	2	+2.6049995E-01	+2.3335113E-02	+2.7699995E-01	+2.4399995E-01	+2.6085329E-01
123.0	7	+2.6171398E-01	+2.0527693E-02	+2.8599995E-01	+2.2499996E-01	+2.6126438E-01
124.0	4	+2.5974988E-01	+1.0244803E-02	+2.6899999E-01	+2.4899995E-01	+2.6140141E-01
127.0	6	+2.6183301E-01	+2.8641360E-02	+2.8199994E-01	+2.1499997E-01	+2.6181250E-01
129.0	4	+2.8122496E-01	+1.1819161E-02	+2.8729999E-01	+2.6349997E-01	+2.6208657E-01
132.0	4	+2.6709985E-01	+7.2396711E-03	+2.7649998E-01	+2.6009994E-01	+2.6249772E-01
133.0	2	+2.5579994E-01	+4.9214928E-02	+2.9059994E-01	+2.2099995E-01	+2.6263475E-01
134.0	4	+2.8384995E-01	+4.2482337E-03	+2.8909999E-01	+2.7919995E-01	+2.6277178E-01
135.0	4	+2.4329996E-01	+4.8766267E-03	+2.4979996E-01	+2.3889994E-01	+2.6290881E-01
136.0	2	+2.4694997E-01	+1.9303873E-02	+2.6059997E-01	+2.3329997E-01	+2.6304584E-01

ANB 3066 PROPELLANT (ANB, P) TENSILE STN @ RUPT, 1750 IN/MIN, 600 PSI, UNLND CT



ANB 3066 PROPELLANT (ANB, P) TENSILE MODULUS, 1750 IN/MIN, 600 PSI, UNLND CTNS

Figure 5-12

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
16.0	8	+4.9901250E+03	+1.8282989E+03	+7.5000000E+03	+3.1470000E+03	+6.4777109E+03
21.0	2	+6.7000000E+03	+2.8284271E+02	+6.9000000E+03	+6.5000000E+03	+6.4074023E+03
28.0	6	+6.8833320E+03	+7.8078490E+02	+7.6000000E+03	+5.7000000E+03	+6.3089765E+03
29.0	2	+7.2500000E+03	+7.7781745E+02	+7.8000000E+03	+6.7000000E+03	+6.2949140E+03
30.0	4	+8.0750000E+03	+1.1176612E+03	+9.2000000E+03	+6.8000000E+03	+6.2808515E+03
36.0	2	+8.1000000E+03	+2.8284271E+02	+8.3000000E+03	+7.9000000E+03	+6.1964843E+03
39.0	4	+6.6750000E+03	+1.5261607E+03	+8.4000000E+03	+5.2000000E+03	+6.1543007E+03
41.0	2	+6.5730000E+03	+7.4528786E+02	+7.1000000E+03	+6.0460000E+03	+6.1261757E+03
43.0	2	+7.9195000E+03	+4.3075515E+01	+7.9500000E+03	+7.8890000E+03	+6.0980546E+03
46.0	2	+7.7500000E+03	+1.6263455E+03	+8.9000000E+03	+6.6000000E+03	+6.0558710E+03
49.0	2	+7.8000000E+03	+1.4142135E+02	+7.9000000E+03	+7.7000000E+03	+6.0136875E+03
50.0	2	+7.6500000E+03	+4.9497474E+02	+8.0000000E+03	+7.3000000E+03	+5.9996250E+03
52.0	2	+4.4975000E+03	+1.1521935E+02	+4.5790000E+03	+4.4160000E+03	+5.9715039E+03
53.0	2	+4.4575000E+03	+9.4039885E+01	+4.5240000E+03	+4.3910000E+03	+5.9574414E+03
54.0	2	+3.5105000E+03	+8.9024687E+02	+4.1400000E+03	+2.8810000E+03	+5.9433789E+03
55.0	4	+6.2590000E+03	+2.3176686E+03	+8.6000000E+03	+4.1860000E+03	+5.9293203E+03
56.0	2	+3.9585000E+03	+3.9244298E+02	+4.2360000E+03	+3.6810000E+03	+5.9152578E+03
57.0	6	+4.5623320E+03	+1.3823006E+03	+6.3000000E+03	+3.3380000E+03	+5.9011953E+03
58.0	5	+5.5923984E+03	+1.9349542E+03	+7.9000000E+03	+3.9640000E+03	+5.8871328E+03
60.0	2	+5.9450000E+03	+1.2091509E+03	+6.8000000E+03	+5.0900000E+03	+5.8590117E+03
62.0	2	+4.6580000E+03	+6.5053823E+01	+4.7040000E+03	+4.6120000E+03	+5.8308906E+03
63.0	6	+5.4961640E+03	+1.6465099E+03	+7.9000000E+03	+4.2710000E+03	+5.8168281E+03
64.0	2	+5.5000000E+03	+4.2426406E+02	+5.8000000E+03	+5.2000000E+03	+5.8027656E+03
65.0	2	+7.8000000E+03	+1.4142135E+02	+7.9000000E+03	+7.7000000E+03	+5.7887070E+03
66.0	2	+8.2500000E+03	+7.7781745E+02	+8.8000000E+03	+7.7000000E+03	+5.7746445E+03
68.0	4	+7.0500000E+03	+1.6258331E+03	+8.8000000E+03	+5.3000000E+03	+5.7465195E+03
69.0	8	+5.0835000E+03	+1.0781072E+03	+6.1000000E+03	+3.0550000E+03	+5.7324609E+03
70.0	2	+6.4000000E+03	+9.8994949E+02	+7.1000000E+03	+5.7000000E+03	+5.7183984E+03
71.0	3	+4.4210000E+03	+4.9076521E+02	+4.9690000E+03	+4.0220000E+03	+5.7043359E+03
72.0	11	+4.3828164E+03	+7.7456882E+02	+6.1000000E+03	+3.3100000E+03	+5.6902773E+03
75.0	3	+5.8533320E+03	+9.9189381E+02	+6.7000000E+03	+4.7620000E+03	+5.6480898E+03

ANB 3066 PROPELLANT (ANB, P) TENSILE MODULUS, 1750 IN/MIN, 600 PSI, UNLND CTNS

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
76.0	1	+6.1000000E+03	+0.0000000E+15	+6.1000000E+03	+6.1000000E+03	+5.6340312E+03
77.0	2	+6.5850000E+03	+2.0505121E+02	+6.7300000E+03	+6.4400000E+03	+5.6109687E+03
78.0	6	+6.2285000E+03	+1.1988146E+03	+8.2300000E+03	+5.0000000E+03	+5.6059062E+03
79.0	2	+5.9485000E+03	+3.8536151E+02	+6.2210000E+03	+5.6760000E+03	+5.5918476E+03
80.0	5	+4.4671992E+03	+4.1127995E+02	+5.0790000E+03	+3.9720000E+03	+5.5777851E+03
82.0	3	+5.4230000E+03	+3.0919007E+02	+5.7800000E+03	+5.2410000E+03	+5.5496640E+03
83.0	4	+6.5250000E+03	+5.1234753E+02	+7.0000000E+03	+5.8000000E+03	+5.5356015E+03
84.0	4	+6.8250000E+03	+6.8495741E+02	+7.2000000E+03	+5.8000000E+03	+5.5215390E+03
85.0	2	+6.9900000E+03	+4.3840620E+02	+7.3000000E+03	+6.6800000E+03	+5.5074765E+03
90.0	2	+7.0000000E+03	+2.8284271E+02	+7.2000000E+03	+6.8000000E+03	+5.4371718E+03
91.0	2	+7.2500000E+03	+3.5355339E+02	+7.5000000E+03	+7.0000000E+03	+5.4231093E+03
92.0	4	+7.2300000E+03	+7.9002109E+02	+7.9400000E+03	+6.1000000E+03	+5.4090507E+03
93.0	2	+4.1915000E+03	+1.1523671E+02	+4.2730000E+03	+4.1100000E+03	+5.3949882E+03
94.0	4	+5.4145000E+03	+4.0480077E+02	+5.7750000E+03	+5.0640000E+03	+5.3809257E+03
95.0	4	+5.2065000E+03	+8.6242275E+02	+6.2340000E+03	+4.1740000E+03	+5.3668632E+03
96.0	3	+5.3013320E+03	+5.3394132E+02	+5.8000000E+03	+4.7380000E+03	+5.3528046E+03
100.0	2	+6.1445000E+03	+9.9206426E+02	+6.8460000E+03	+5.4430000E+03	+5.2965585E+03
105.0	2	+6.5110000E+03	+2.5171015E+02	+6.6890000E+03	+6.3330000E+03	+5.2262500E+03
106.0	4	+5.1477500E+03	+6.9685190E+02	+5.7930000E+03	+4.4790000E+03	+5.2121914E+03
107.0	4	+4.2877500E+03	+6.4361887E+02	+5.1600000E+03	+3.6460000E+03	+5.1981289E+03
108.0	2	+3.7505000E+03	+6.4338946E+01	+3.7960000E+03	+3.7050000E+03	+5.1840664E+03
109.0	3	+3.8596665E+03	+2.1788949E+02	+4.1070000E+03	+3.6960000E+03	+5.1700078E+03
110.0	8	+4.8020000E+03	+6.9844398E+02	+5.9660000E+03	+3.8660000E+03	+5.1559453E+03
111.0	4	+4.6387500E+03	+3.5448824E+02	+5.0020000E+03	+4.1720000E+03	+5.1418828E+03
112.0	6	+5.9546640E+03	+8.8008060E+02	+6.7980000E+03	+4.3490000E+03	+5.1278203E+03
113.0	5	+4.9880000E+03	+6.9817762E+02	+5.7550000E+03	+3.8530000E+03	+5.1137617E+03
114.0	2	+4.4050000E+03	+4.9496464E+02	+4.7550000E+03	+4.0550000E+03	+5.0996992E+03
115.0	2	+3.8440000E+03	+9.3054822E+02	+4.5020000E+03	+3.1860000E+03	+5.0856367E+03
116.0	2	+3.5900000E+03	+3.2383946E+02	+3.8190000E+03	+3.3610000E+03	+5.0715781E+03
117.0	4	+4.5937500E+03	+2.8285435E+02	+4.8140000E+03	+4.2000000E+03	+5.0575156E+03
118.0	2	+5.0065000E+03	+1.9724984E+02	+5.1460000E+03	+4.8670000E+03	+5.0434531E+03

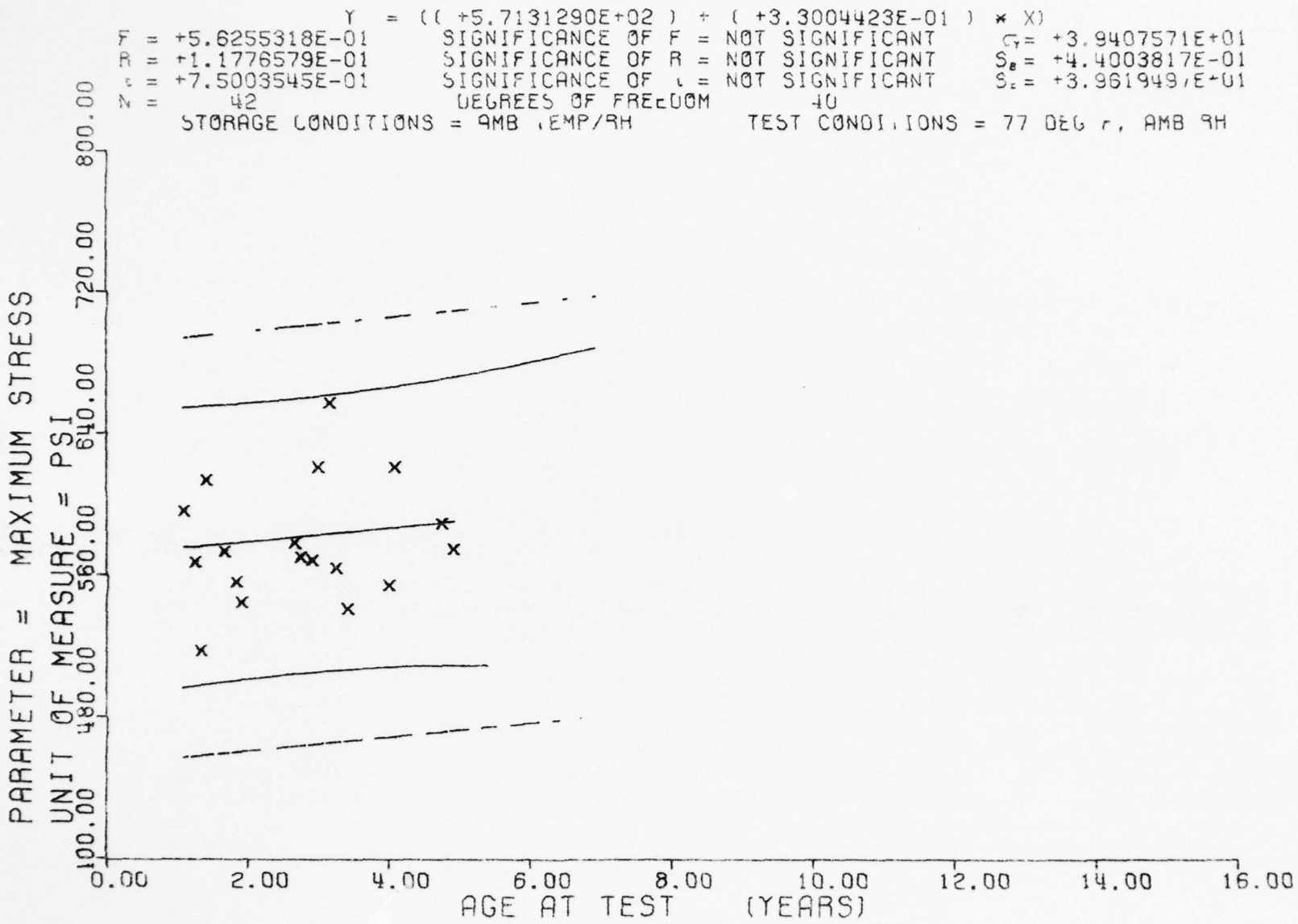
ANB 3066 PROPELLANT (ANB, P) TENSILE MODULUS, 1750 IN/MIN, 600 PSI, UNLND CTNS

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
120.0	2	+3.8530000E+03	+7.8346793E+02	+4.4070000E+03	+3.2990000E+03	+5.0153320E+03
123.0	7	+3.7835712E+03	+6.2518460E+02	+4.3430000E+03	+2.6460000E+03	+4.9731484E+03
124.0	4	+4.6650000E+03	+6.6153659E+02	+5.4480000E+03	+3.8700000E+03	+4.9590859E+03
127.0	6	+4.3173320E+03	+5.3222050E+02	+4.7750000E+03	+3.4820000E+03	+4.9169023E+03
129.0	4	+6.5622500E+03	+8.3368014E+02	+7.6680000E+03	+5.6430000E+03	+4.8887773E+03
132.0	4	+5.1350000E+03	+2.5272646E+02	+5.3390000E+03	+4.7730000E+03	+4.8465937E+03
133.0	2	+6.2025000E+03	+1.1292490E+03	+7.0010000E+03	+5.4040000E+03	+4.8325351E+03
134.0	4	+5.2515000E+03	+3.1513753E+02	+5.5300000E+03	+4.8560000E+03	+4.8184726E+03
135.0	4	+6.1555000E+03	+4.4802343E+02	+6.5920000E+03	+5.7190000E+03	+4.8044101E+03
136.0	2	+5.9595000E+03	+4.6173531E+02	+6.2860000E+03	+5.6330000E+03	+4.7903515E+03

ANB 3066 PROPELLANT (ANB, P) TENSILE MODULUS, 1750 IN/MIN, 600 PSI, UNLND CTNS



ANB 3066 PROPELLANT (ANB P)TENSILE MAX STRESS, 1750 IN/MIN, 600 PSI, 77 DEG LINED

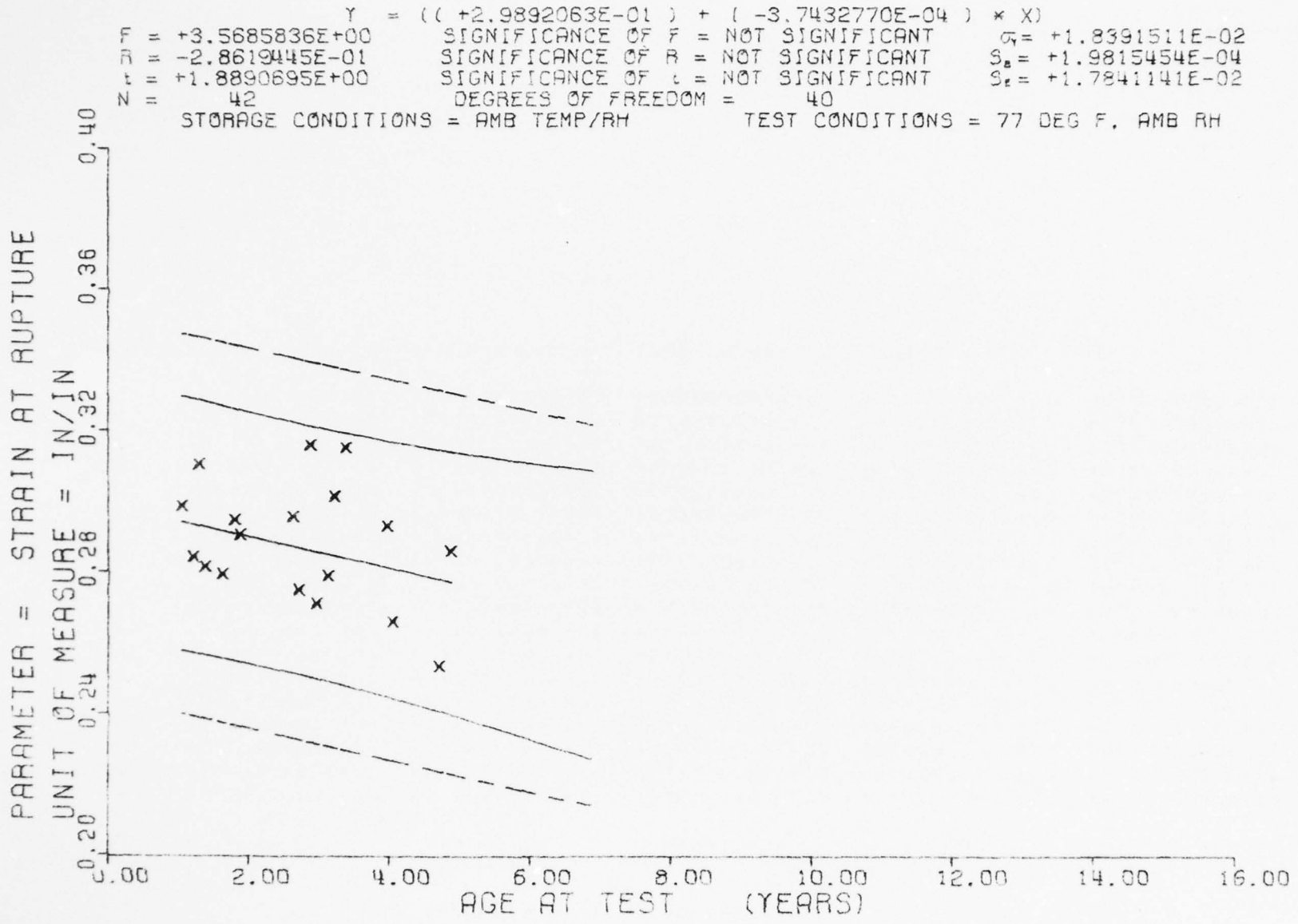
Figure 5-13

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+5.9631323E+02	+1.2012212E+01	+6.0511987E+02	+5.8262985E+02	+5.7560327E+02
15.0	2	+5.6743481E+02	+6.7034040E+00	+5.7216992E+02	+5.6269995E+02	+5.7626342E+02
16.0	2	+5.1747485E+02	+3.4612848E+01	+5.4194995E+02	+4.9300000E+02	+5.7659350E+02
17.0	4	+6.1354467E+02	+1.5196654E+01	+6.3251977E+02	+5.9556982E+02	+5.7692358E+02
20.0	2	+5.7337475E+02	+5.8948043E+00	+5.7752978E+02	+5.6921997E+02	+5.7791357E+02
22.0	4	+5.5612231E+02	+3.7370281E+01	+5.9302978E+02	+5.0891992E+02	+5.7857373E+02
23.0	2	+5.4461474E+02	+3.1929269E+01	+5.6718994E+02	+5.2203979E+02	+5.7890380E+02
32.0	2	+5.7849487E+02	+1.1417693E+01	+5.8655981E+02	+5.7042993E+02	+5.8187426E+02
33.0	2	+5.7015991E+02	+1.3087656E+01	+5.7940991E+02	+5.6090991E+02	+5.8220434E+02
35.0	1	+5.6868994E+02	+0.0000000E+23	+5.6868994E+02	+5.6868994E+02	+5.8286425E+02
36.0	4	+6.2093725E+02	+4.0345978E+01	+6.6350976E+02	+5.7050976E+02	+5.8319433E+02
38.0	2	+6.5747973E+02	+2.9492102E+01	+6.7832983E+02	+6.3662988E+02	+5.8385449E+02
39.0	2	+5.6423486E+02	+9.8030921E+00	+5.7115991E+02	+5.5730981E+02	+5.8418457E+02
41.0	2	+5.4117480E+02	+9.5415661E+00	+5.4798999E+02	+5.3435985E+02	+5.8484448E+02
48.0	2	+5.5442968E+02	+1.4649574E+01	+5.6477978E+02	+5.4407983E+02	+5.8715478E+02
49.0	2	+6.2115478E+02	+2.2723335E+01	+6.3721997E+02	+6.0508984E+02	+5.8748486E+02
57.0	2	+5.8947485E+02	+1.4148986E+01	+5.9947998E+02	+5.7946997E+02	+5.9012524E+02
59.0	2	+5.7487983E+02	+5.7970278E+01	+6.1586987E+02	+5.3386989E+02	+5.9078540E+02

ANB 3066 PROPELLANT(ANB) TENSILE MAX STRESS, 1750 IN/MIN, 600 PSI, 77 DEG LINED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R = -2.8619445E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT Sa = +1.9815454E-04
t = +1.8890695E+00 SIGNIFICANCE OF t = NOT SIGNIFICANT Se = +1.7841141E-02
N = 42 DEGREES OF FREEDOM = 40
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = STRAIN AT RUPTURE
UNIT OF MEASURE = IN/IN
0.40
0.36
0.32
0.28
0.24
0.20
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPELLANT (ANBP) TENSILE STN AT RUP, 1750 IN/MIN, 600 PSI, 77 DEG LINED

Figure 5-14

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

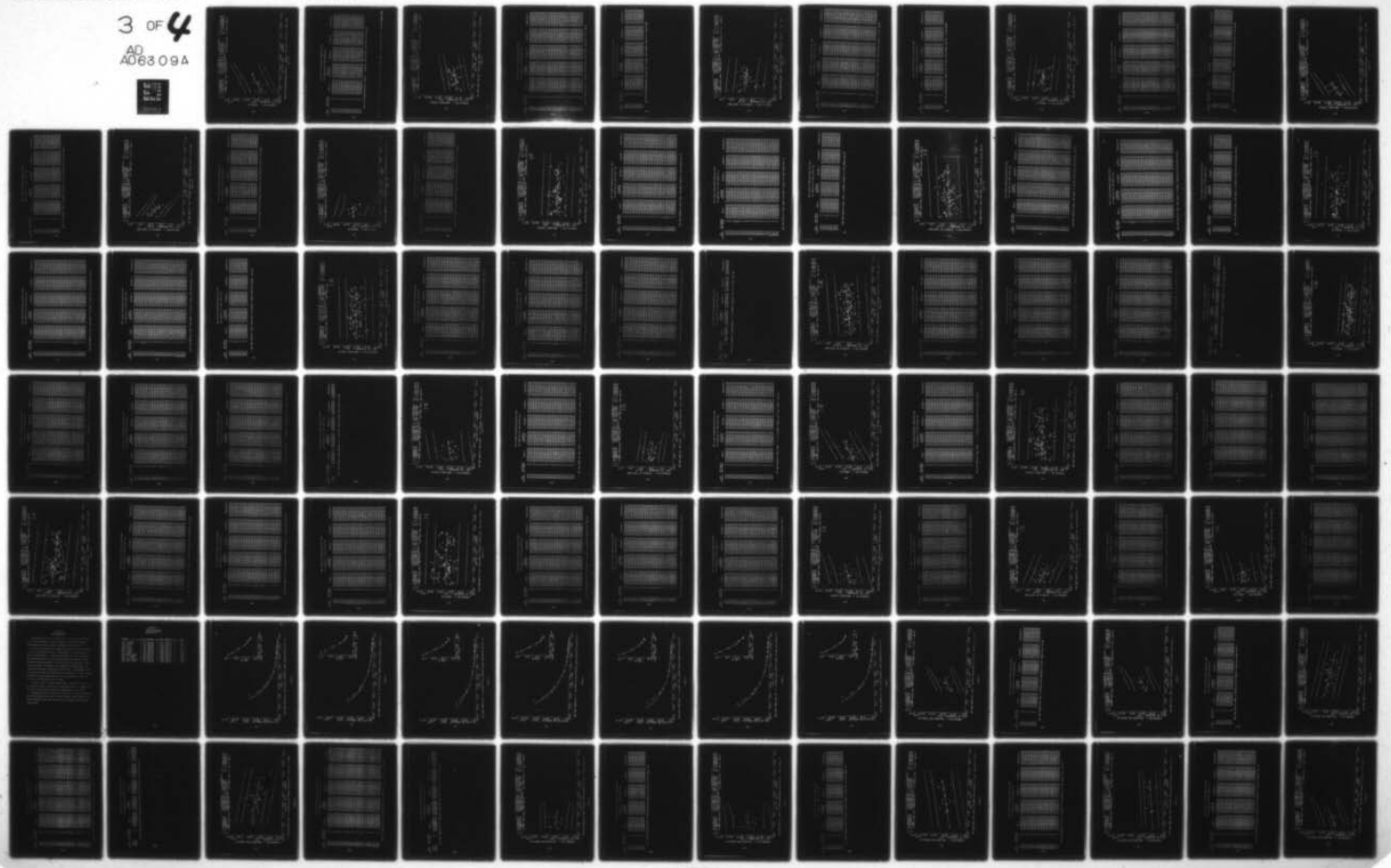
AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+2.9876661E-01	+8.9579247E-03	+3.0909997E-01	+2.9319995E-01	+2.9403432E-01
15.0	2	+2.8439992E-01	+1.3859422E-02	+2.9419994E-01	+2.7459996E-01	+2.9330569E-01
16.0	2	+3.1054997E-01	+1.9162171E-02	+3.2409995E-01	+2.9699999E-01	+2.9293137E-01
17.0	4	+2.8162479E-01	+2.3551482E-02	+2.9809999E-01	+2.4719995E-01	+2.9255706E-01
20.0	2	+2.7949994E-01	+1.0606381E-02	+2.8699994E-01	+2.7199995E-01	+2.9143404E-01
22.0	4	+2.9487490E-01	+1.6746955E-02	+3.1599998E-01	+2.7519994E-01	+2.9068541E-01
23.0	2	+2.9059994E-01	+1.7393700E-02	+3.0289995E-01	+2.7829998E-01	+2.9031103E-01
32.0	2	+2.9564994E-01	+9.0493941E-04	+2.9629999E-01	+2.9499995E-01	+2.8694212E-01
33.0	2	+2.7499997E-01	+1.9354439E-03	+2.7629995E-01	+2.7369999E-01	+2.8656780E-01
35.0	1	+3.1599998E-01	+0.0000000E+23	+3.1599998E-01	+3.1599998E-01	+2.8581911E-01
36.0	4	+2.7124977E-01	+9.3708944E-03	+2.7959996E-01	+2.5799995E-01	+2.8544479E-01
38.0	2	+2.7889996E-01	+4.7997559E-03	+2.8229999E-01	+2.7549999E-01	+2.8469616E-01
39.0	2	+3.0139994E-01	+8.0607661E-03	+3.0709999E-01	+2.9569995E-01	+2.8432184E-01
41.0	2	+3.1514996E-01	+1.1808990E-02	+3.2349997E-01	+3.0679994E-01	+2.8357319E-01
48.0	2	+2.9304993E-01	+2.7632039E-03	+2.9499995E-01	+2.9109996E-01	+2.8095287E-01
49.0	2	+2.6614993E-01	+4.4537027E-03	+2.6929998E-01	+2.6299995E-01	+2.8057855E-01
57.0	2	+2.5349998E-01	+4.9492657E-03	+2.5699996E-01	+2.5000000E-01	+2.7758389E-01
59.0	2	+2.8589993E-01	+7.2105936E-03	+2.9099994E-01	+2.8079998E-01	+2.7683526E-01

ANB 3066 PROPELLANT(ANB) TENSILE STN AT RUP, 1750 IN/MIN, 600 PSI, 77 DEG LINED

AD-A063 094 OGDEN AIR LOGISTICS CENTER HILL AFB UTAH PROPELLANT L--ETC F/G 21/9.2
PROPELLANT SURVEILLANCE REPORT ANB-3066 PROPELLANT.(U)
JUL 78 E M DALABA

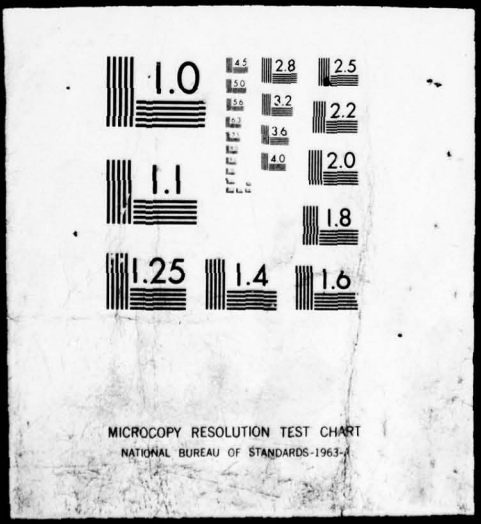
UNCLASSIFIED MANCP-398(78) NL

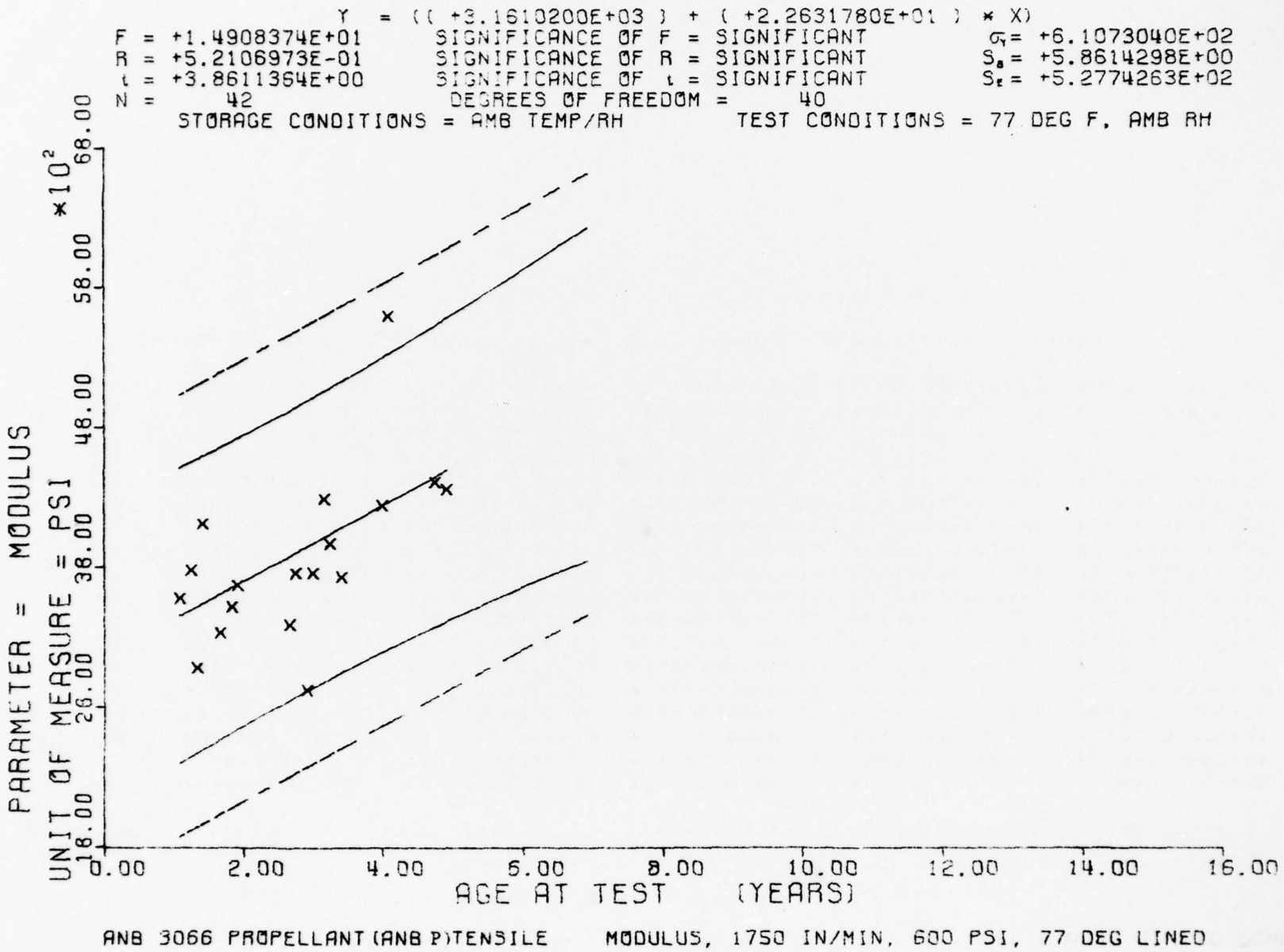
3 OF 4
AD
A063094



3 OF 4

AD
A063094

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F = +1.4908374E+01 SIGNIFICANCE OF F = SIGNIFICANT σ_Y = +6.1073040E+02
R = +5.2106973E-01 SIGNIFICANCE OF R = SIGNIFICANT S_B = +5.8614298E+00
t = +3.8611364E+00 SIGNIFICANCE OF t = SIGNIFICANT S_E = +5.2774263E+02
N = 42 DEGREES OF FREEDOM = 40
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = MODULUS
UNIT OF MEASURE = PSI *10²
68.00
58.00
48.00
38.00
28.00
18.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPELLANT (ANB P)TENSILE MODULUS, 1750 IN/MIN, 600 PSI, 77 DEG LINED

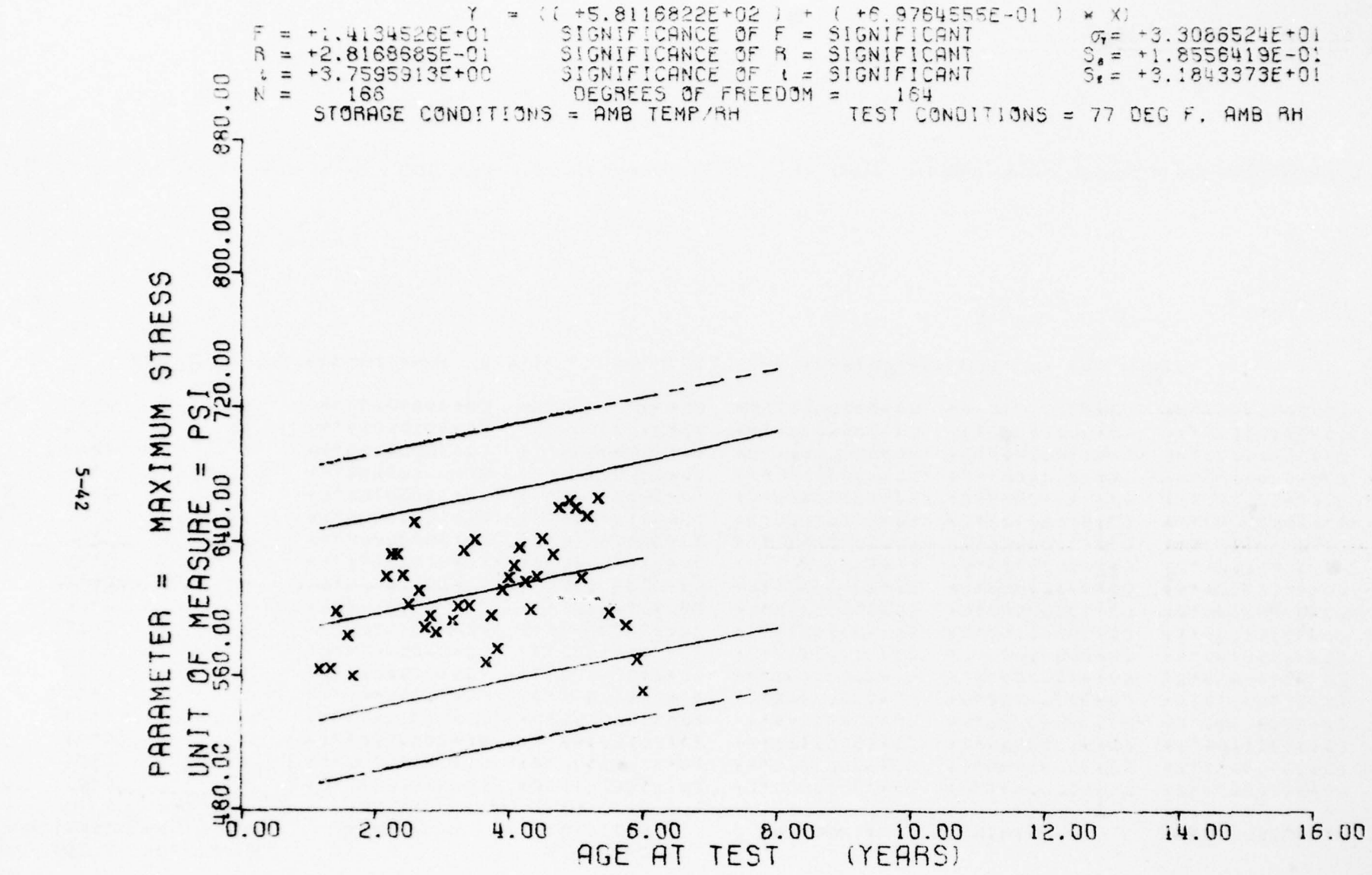
Figure 5-15

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+3.5793332E+03	+3.7753851E+02	+3.8290000E+03	+3.1450000E+03	+3.4552331E+03
15.0	2	+3.7815000E+03	+2.7646970E+02	+3.9770000E+03	+3.5860000E+03	+3.5004965E+03
16.0	2	+3.0835000E+03	+2.6516315E+02	+3.2710000E+03	+2.8960000E+03	+3.5231284E+03
17.0	4	+4.1157500E+03	+5.5979750E+02	+4.9430000E+03	+3.7330000E+03	+3.5457602E+03
20.0	2	+3.3345000E+03	+6.1412539E+01	+3.3780000E+03	+3.2910000E+03	+3.6136556E+03
22.0	4	+3.5207500E+03	+5.5236634E+02	+4.1630000E+03	+2.9420000E+03	+3.6584189E+03
23.0	2	+3.6735000E+03	+2.9061916E+02	+3.8790000E+03	+3.4680000E+03	+3.6815507E+03
32.0	2	+3.3920000E+03	+1.6685322E+02	+3.5100000E+03	+3.2740000E+03	+3.8852368E+03
33.0	2	+3.7610000E+03	+1.3575713E+02	+3.8570000E+03	+3.6650000E+03	+3.9078686E+03
35.0	1	+2.9250000E+03	+0.0000000E+23	+2.9250000E+03	+2.9250000E+03	+3.9531323E+03
36.0	4	+3.7592500E+03	+1.2743331E+02	+3.9280000E+03	+3.6260000E+03	+3.9757639E+03
38.0	2	+4.2930000E+03	+7.8630146E+02	+4.8490000E+03	+3.7370000E+03	+4.0210275E+03
39.0	2	+3.9695000E+03	+8.9774718E+01	+4.0330000E+03	+3.9060000E+03	+4.0436594E+03
41.0	2	+3.7310000E+03	+1.3009996E+02	+3.8230000E+03	+3.6390000E+03	+4.0889228E+03
48.0	2	+4.2435000E+03	+1.7038632E+02	+4.3640000E+03	+4.1230000E+03	+4.2473437E+03
49.0	2	+5.5970000E+03	+2.5596484E+02	+5.7780000E+03	+5.4160000E+03	+4.2699765E+03
57.0	2	+4.4105000E+03	+8.5530696E+01	+4.4710000E+03	+4.3500000E+03	+4.4510312E+03
59.0	2	+4.3570000E+03	+2.2061278E+02	+4.5130000E+03	+4.2010000E+03	+4.4962929E+03

ANB 3066 PROPELLANT(ANB) TENSILE MODULUS, 1750 IN/MIN, 600 PSI, 77 DEG LINED



ANB 3066 PROPELLANT (ANT) TENSILE MAX STRESS, 1750 IN/MIN, 600 PSI, 77 DEG UNLND

Figure 5-16

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
14.0	2	+5.6455468E+02	+1.4203308E+01	+5.7458984E+02	+5.5451977E+02	+5.9093505E+02
16.0	3	+5.6484643E+02	+1.2145975E+01	+5.7602978E+02	+5.5193994E+02	+5.9233032E+02
17.0	5	+5.9898779E+02	+1.7164894E+01	+6.1816992E+02	+5.7316992E+02	+5.9302807E+02
19.0	2	+5.8459976E+02	+2.1727169E+01	+5.9986987E+02	+5.6914990E+02	+5.9442333E+02
20.0	2	+5.6053491E+02	+4.0124323E+00	+5.6335986E+02	+5.5770996E+02	+5.9512109E+02
26.0	1	+6.1984985E+02	+0.0000000E+11	+6.1984985E+02	+6.1984985E+02	+5.9930688E+02
27.0	2	+6.3314477E+02	+5.0326571E+00	+6.3668994E+02	+6.2959985E+02	+6.0000463E+02
28.0	1	+6.3310986E+02	+0.0000000E+19	+6.3310986E+02	+6.3310986E+02	+6.0070214E+02
29.0	2	+6.2063989E+02	+1.7597868E+01	+6.3307983E+02	+6.0819995E+02	+6.0139990E+02
30.0	3	+6.0311643E+02	+4.2450181E+01	+6.3619995E+02	+5.5525000E+02	+6.0209741E+02
31.0	2	+6.5223486E+02	+5.5078841E+01	+6.9117993E+02	+6.1328979E+02	+6.0279516E+02
32.0	1	+6.1185986E+02	+0.0000000E+35	+6.1185986E+02	+6.1185986E+02	+6.0349267E+02
33.0	2	+5.8946484E+02	+4.9202099E+00	+5.9291992E+02	+5.8600976E+02	+6.0419042E+02
34.0	1	+5.9669995E+02	+0.0000000E+43	+5.9669995E+02	+5.9669995E+02	+6.0488793E+02
35.0	3	+5.8666967E+02	+1.2110063E+01	+5.9937988E+02	+5.7528979E+02	+6.0558569E+02
38.0	5	+5.9382983E+02	+7.4940201E+00	+6.0347998E+02	+5.8751977E+02	+6.0767871E+02
39.0	5	+6.0228784E+02	+1.7345633E+01	+6.1854980E+02	+5.8061987E+02	+6.0837622E+02
40.0	2	+6.3520971E+02	+7.2531863E+00	+6.4031982E+02	+6.3009985E+02	+6.0907397E+02
41.0	7	+6.0250537E+02	+1.1917630E+01	+6.1876977E+02	+5.8755981E+02	+6.0977148E+02
42.0	3	+6.4206640E+02	+4.9276199E+00	+6.4632983E+02	+6.3665991E+02	+6.1046923E+02
44.0	6	+5.6909814E+02	+2.5414694E+01	+5.9151977E+02	+5.3657983E+02	+6.1186450E+02
45.0	6	+5.9678808E+02	+1.3376974E+01	+6.1312988E+02	+5.7908984E+02	+6.1256225E+02
46.0	4	+5.7691479E+02	+1.7432863E+01	+6.0170996E+02	+5.6092993E+02	+6.1325976E+02
47.0	11	+6.1200805E+02	+3.1016174E+01	+6.4367993E+02	+5.7220996E+02	+6.1395751E+02
48.0	10	+6.1945068E+02	+2.2561757E+01	+6.5388989E+02	+5.8829980E+02	+6.1465502E+02
49.0	6	+6.2640820E+02	+1.4834233E+01	+6.4302978E+02	+6.0970996E+02	+6.1535278E+02
50.0	9	+6.3721777E+02	+1.9657499E+01	+6.8129980E+02	+6.1645996E+02	+6.1605029E+02
51.0	3	+6.1704321E+02	+1.2247862E+01	+6.2445996E+02	+6.0289990E+02	+6.1674804E+02
52.0	3	+6.0045493E+02	+8.5222648E+00	+6.0647998E+02	+5.9442993E+02	+6.1744555E+02
53.0	12	+6.1996118E+02	+2.0686816E+01	+6.5133984E+02	+5.9517993E+02	+6.1814331E+02
54.0	7	+6.4252392E+02	+1.1055964E+01	+6.5484985E+02	+6.2233984E+02	+6.1884106E+02

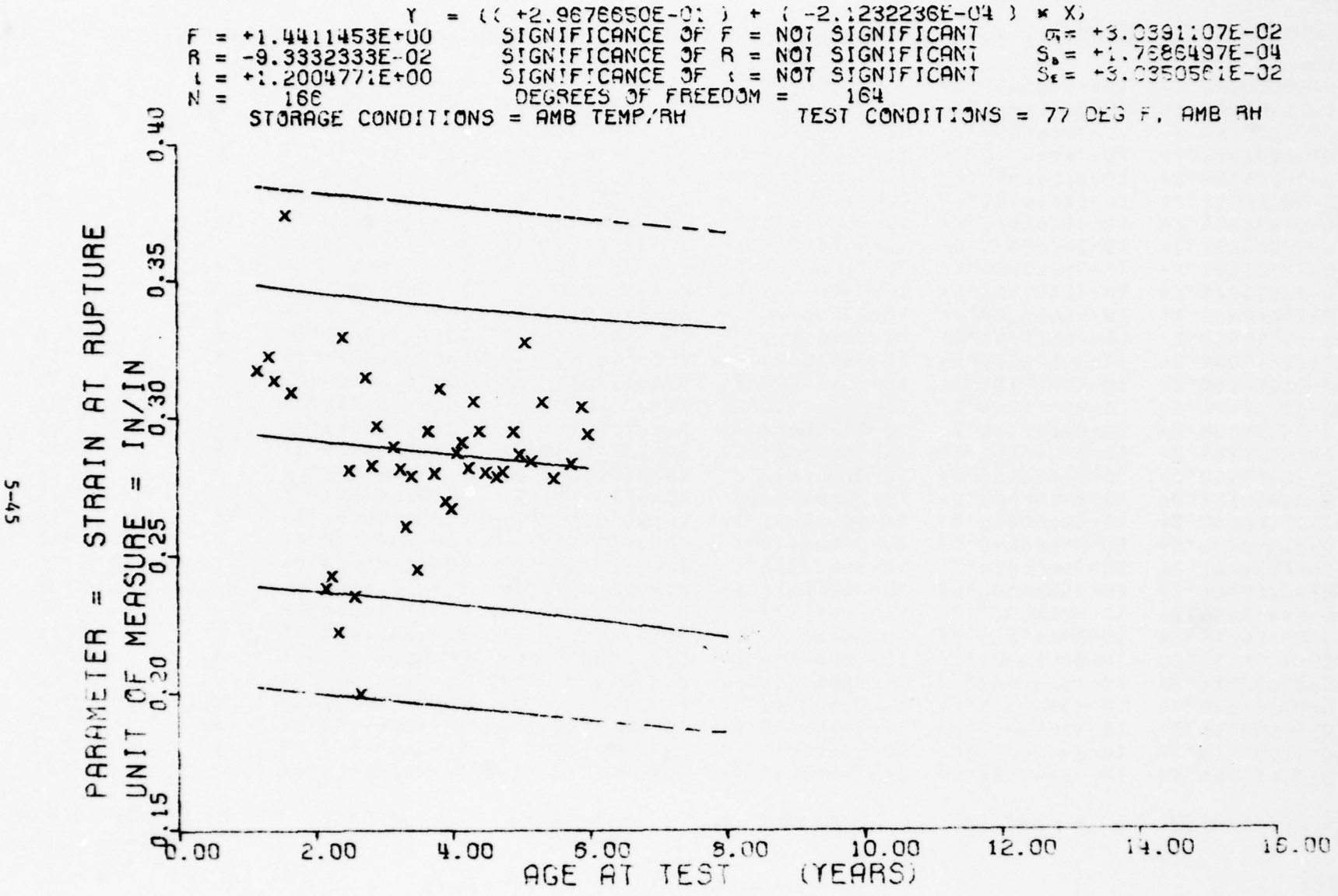
AN8 3066 PROPELLANT(ANT) TENSILE MAX STRESS, 1750 IN/MIN, 600 PSI, 77 DEG UNLND

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
56.0	6	+6.3288818E+02	+3.6192994E+01	+6.8021997E+02	+6.0117993E+02	+6.2023632E+02
57.0	6	+6.6054467E+02	+3.4945907E+01	+6.8677978E+02	+6.0585986E+02	+6.2093383E+02
59.0	2	+6.6507983E+02	+1.6367982E+00	+6.6621997E+02	+6.6393994E+02	+6.2232910E+02
60.0	2	+6.6055981E+02	+5.8803078E+00	+6.6470996E+02	+6.5640991E+02	+6.2302685E+02
61.0	2	+6.1912988E+02	+5.6735277E+00	+6.2312988E+02	+6.1512988E+02	+6.2372436E+02
62.0	2	+6.5580493E+02	+4.0661125E+00	+6.5866992E+02	+6.5293994E+02	+6.2442211E+02
64.0	4	+6.6671972E+02	+2.2815007E+01	+6.9659985E+02	+6.4331982E+02	+6.2581738E+02
66.0	2	+5.9879980E+02	+5.5257919E+00	+6.0269995E+02	+5.9489990E+02	+6.2721264E+02
69.0	4	+5.9120483E+02	+7.5957975E+00	+5.9618994E+02	+5.7997998E+02	+6.2930566E+02
71.0	4	+5.7076489E+02	+2.4999734E+00	+5.7278979E+02	+5.6730981E+02	+6.3070092E+02
72.0	2	+5.5171997E+02	+9.9290157E+00	+5.5873999E+02	+5.4469995E+02	+6.3139868E+02

ANB 3066 PROPELLANT(ANT) TENSILE MAX STRESS, 1750 IN/MIN, 600 PSI, 77 DEG UNLND



ANB 3066 PROPELLANT(ANT) TENSILE STN AT RUP, 1750 IN/MIN, 600 PSI, 77 DEG UNLND

Figure 5-17

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
14.0	2	+3.1749993E-01	+1.2020736E-02	+3.2599997E-01	+3.0899995E-01	+2.9379397E-01
16.0	3	+3.2266658E-01	+1.2504114E-02	+3.3499997E-01	+3.0999994E-01	+2.9336929E-01
17.0	5	+3.1371992E-01	+9.6282112E-03	+3.2859998E-01	+3.0499994E-01	+2.9315698E-01
19.0	2	+3.7424993E-01	+7.4227337E-03	+3.7949997E-01	+3.6899995E-01	+2.9273235E-01
20.0	2	+3.0949997E-01	+4.4547473E-02	+3.4099996E-01	+2.7799999E-01	+2.9252004E-01
26.0	1	+2.3849999E-01	+0.0000000E+11	+2.3849999E-01	+2.3849999E-01	+2.9124611E-01
27.0	2	+2.4309992E-01	+3.5779684E-02	+2.6839995E-01	+2.1779996E-01	+2.9103374E-01
28.0	1	+2.2259998E-01	+0.0000000E+19	+2.2259998E-01	+2.2259998E-01	+2.9082143E-01
29.0	2	+3.2944995E-01	+1.2656596E-02	+3.3839994E-01	+3.2049995E-01	+2.9060912E-01
30.0	3	+2.8109997E-01	+5.9113878E-02	+3.2249999E-01	+2.1339994E-01	+2.9039680E-01
31.0	2	+2.3549991E-01	+6.5336533E-02	+2.8169995E-01	+1.8929994E-01	+2.9018449E-01
32.0	1	+1.9999998E-01	+0.0000000E+35	+1.9999998E-01	+1.9999998E-01	+2.8997218E-01
33.0	2	+3.1484997E-01	+1.5344388E-02	+3.2569998E-01	+3.0399996E-01	+2.8975981E-01
34.0	1	+2.8289997E-01	+0.0000000E+43	+2.8289997E-01	+2.8289997E-01	+2.8954750E-01
35.0	3	+2.9726660E-01	+3.6807095E-02	+3.1999999E-01	+2.5479996E-01	+2.8933519E-01
38.0	5	+2.8957974E-01	+3.1595597E-02	+3.2599997E-01	+2.5719994E-01	+2.8869825E-01
39.0	5	+2.8177982E-01	+4.9612752E-02	+3.5159999E-01	+2.4189996E-01	+2.8848588E-01
40.0	2	+2.6074993E-01	+7.6780374E-04	+2.6129996E-01	+2.6019996E-01	+2.8827357E-01
41.0	7	+2.7915680E-01	+1.4397897E-02	+3.0899995E-01	+2.6809996E-01	+2.8806126E-01
42.0	3	+2.4526661E-01	+1.9962750E-02	+2.6479995E-01	+2.2489994E-01	+2.8784894E-01
44.0	6	+2.9533302E-01	+9.2536494E-03	+3.0499994E-01	+2.8399997E-01	+2.8742426E-01
45.0	4	+2.8003323E-01	+1.6997159E-02	+2.9899996E-01	+2.5549995E-01	+2.8721195E-01
46.0	4	+3.1079983E-01	+9.8082750E-03	+3.2509994E-01	+3.0289995E-01	+2.8699964E-01
47.0	11	+2.6986318E-01	+1.3137746E-02	+2.9729998E-01	+2.5499999E-01	+2.8678733E-01
48.0	10	+2.6720958E-01	+1.5637862E-02	+2.8299999E-01	+2.2799998E-01	+2.8657501E-01
49.0	6	+2.8751641E-01	+2.3759319E-02	+3.1199997E-01	+2.6319998E-01	+2.8636270E-01
50.0	9	+2.9133296E-01	+3.4332137E-02	+3.4599995E-01	+2.4699997E-01	+2.8615033E-01
51.0	3	+2.8199994E-01	+3.8935647E-02	+3.1199997E-01	+2.3799997E-01	+2.8593802E-01
52.0	2	+3.0599993E-01	+2.1213466E-02	+3.2099997E-01	+2.9099994E-01	+2.8572571E-01
53.0	12	+2.9535794E-01	+2.6470780E-02	+3.4399998E-01	+2.3499995E-01	+2.8551340E-01
54.0	7	+2.8035676E-01	+1.5998293E-02	+3.0769997E-01	+2.5399994E-01	+2.8530108E-01

ANB 3066 PROPELLANT(ANT) TENSILE STN AT RUP, 1750 IN/MIN, 600 PSI, 77 DEG UNLND

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
56.0	6	+2.7866649E-01	+2.1631775E-02	+3.1999999E-01	+2.5999999E-01	+2.8487640E-01
57.0	6	+2.8049975E-01	+1.4481199E-02	+3.0199998E-01	+2.6389998E-01	+2.8466409E-01
59.0	2	+2.9499995E-01	+5.6758363E-04	+2.9539996E-01	+2.9459995E-01	+2.8423947E-01
60.0	2	+2.8659993E-01	+1.6987298E-03	+2.8779995E-01	+2.8539997E-01	+2.8402715E-01
61.0	2	+3.2734996E-01	+1.0438783E-03	+3.2809996E-01	+3.2659995E-01	+2.8381478E-01
62.0	2	+2.8429996E-01	+3.0123051E-02	+3.0559998E-01	+2.6299995E-01	+2.8360247E-01
64.0	4	+3.0577492E-01	+2.0461690E-02	+3.2699996E-01	+2.8209996E-01	+2.8317785E-01
66.0	2	+2.7799993E-01	+5.6569373E-03	+2.8199994E-01	+2.7399998E-01	+2.8275322E-01
69.0	4	+2.8324985E-01	+8.7750397E-03	+2.9599994E-01	+2.7699995E-01	+2.8211623E-01
71.0	4	+3.0399990E-01	+1.0679370E-02	+3.1799995E-01	+2.9199999E-01	+2.8169161E-01
72.0	2	+2.9399996E-01	+9.8981135E-03	+3.0099999E-01	+2.8699994E-01	+2.8147923E-01

ANB 3066 PROPELLANT(ANT) TENSILE STN AT RUP, 1750 IN/MIN, 600 PSI, 77 DEG UNLND

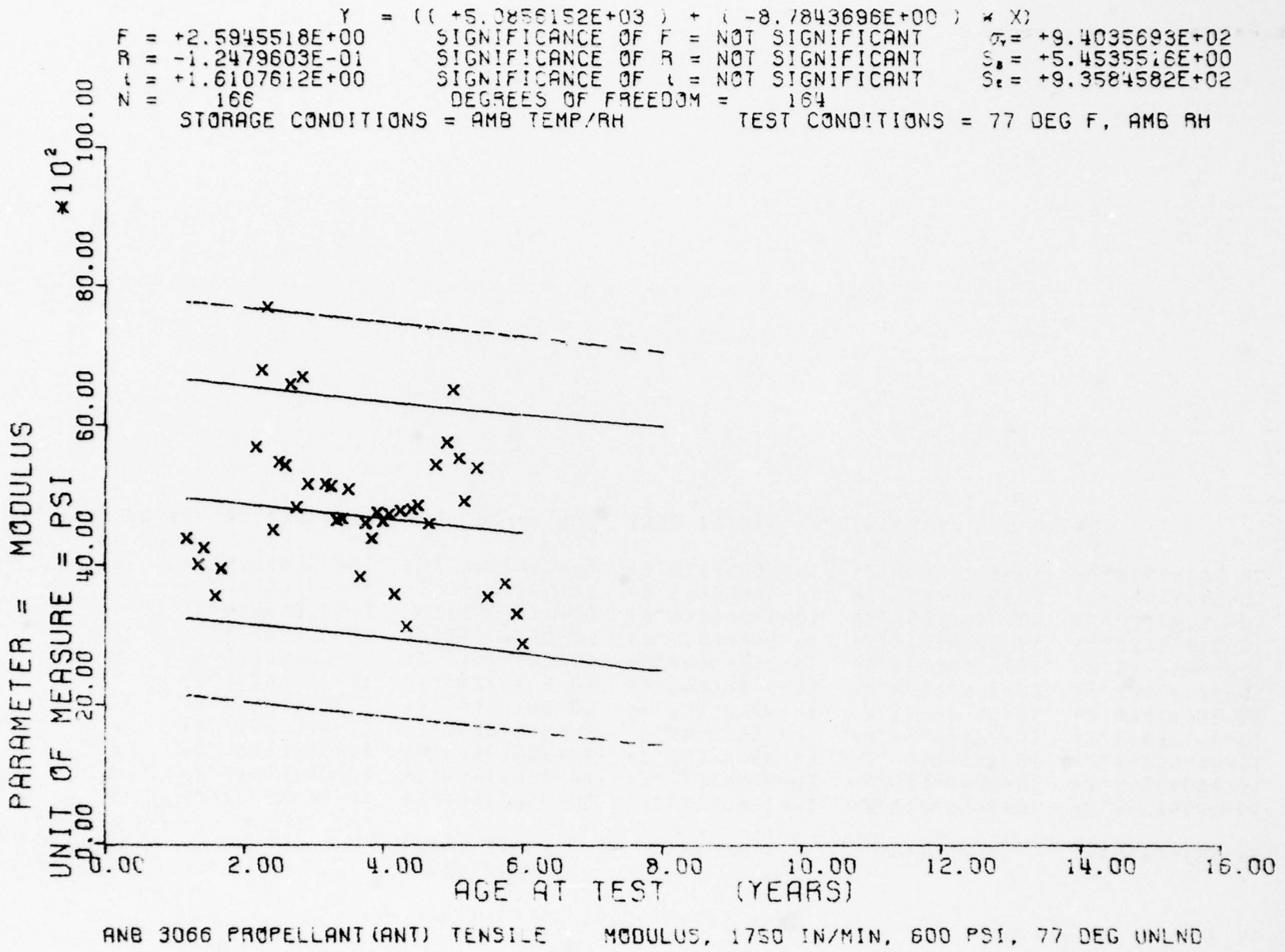

Y = ((+5.0856152E+03) + (-8.7843696E+00) * X)
F = +2.5945518E+00 SIGNIFICANCE OF F = NOT SIGNIFICANT σ = +9.4035693E+02
R = -1.2479603E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT S_B = +5.4535516E+00
t = +1.6107612E+00 SIGNIFICANCE OF t = NOT SIGNIFICANT S_E = +9.3584582E+02
N = 166 DEGREES OF FREEDOM = 164
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = MODULUS
UNIT OF MEASURE = PSI *10²
0.00
20.00
40.00
60.00
80.00
100.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPELLANT(ANT) TENSILE MODULUS, 1750 IN/MIN, 600 PSI, 77 DEG UNLND

Figure 5-18

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
14.0	2	+4.3930000E+03	+1.3784048E+01	+4.4030000E+03	+4.3830000E+03	+4.9626328E+03
16.0	3	+4.0176665E+03	+1.0005914E+02	+4.1200000E+03	+3.9200000E+03	+4.9450625E+03
17.0	5	+4.2595976E+03	+1.0115236E+02	+4.4000000E+03	+4.1310000E+03	+4.9362773E+03
19.0	2	+3.5745000E+03	+3.1889104E+02	+3.8000000E+03	+3.3490000E+03	+4.9187109E+03
20.0	2	+3.9630000E+03	+3.0951575E+01	+3.9850000E+03	+3.9410000E+03	+4.9099257E+03
26.0	1	+5.7000000E+03	+0.0000000E+11	+5.7000000E+03	+5.7000000E+03	+4.8572187E+03
27.0	2	+6.8000000E+03	+7.0710678E+02	+7.3000000E+03	+6.3000000E+03	+4.8484335E+03
28.0	1	+7.7000000E+03	+0.0000000E+19	+7.7000000E+03	+7.7000000E+03	+4.8396523E+03
29.0	2	+4.5130000E+03	+3.2102024E+02	+4.7400000E+03	+4.2860000E+03	+4.8308671E+03
30.0	3	+5.4833320E+03	+1.0574154E+03	+6.7000000E+03	+4.7860000E+03	+4.8220820E+03
31.0	2	+5.4420000E+03	+1.0719738E+03	+6.2000000E+03	+4.6840000E+03	+4.8132968E+03
32.0	1	+6.6000000E+03	+0.0000000E+35	+6.6000000E+03	+6.6000000E+03	+4.8045117E+03
33.0	2	+4.8385000E+03	+2.7081266E+02	+5.0300000E+03	+4.6470000E+03	+4.7957304E+03
34.0	1	+6.7000000E+03	+0.0000000E+43	+6.7000000E+03	+6.7000000E+03	+4.7869453E+03
35.0	3	+5.1723320E+03	+1.1574021E+03	+6.5000000E+03	+4.3760000E+03	+4.7781601E+03
38.0	5	+5.1745976E+03	+4.9279767E+02	+5.6160000E+03	+4.5520000E+03	+4.7518085E+03
39.0	5	+5.1473984E+03	+6.3073803E+02	+5.6430000E+03	+4.0680000E+03	+4.7430234E+03
40.0	2	+4.6550000E+03	+1.3150665E+02	+4.7480000E+03	+4.5620000E+03	+4.7342382E+03
41.0	7	+4.6754257E+03	+4.3908042E+02	+5.2130000E+03	+3.8190000E+03	+4.7254531E+03
42.0	3	+5.1013320E+03	+3.2192752E+02	+5.4010000E+03	+4.7610000E+03	+4.7166679E+03
44.0	6	+3.8485000E+03	+4.5005566E+02	+4.3220000E+03	+3.2370000E+03	+4.6991015E+03
45.0	6	+4.6130000E+03	+4.1486238E+02	+5.0190000E+03	+3.9920000E+03	+4.6903164E+03
46.0	4	+4.3925000E+03	+1.8014716E+02	+4.5320000E+03	+4.1280000E+03	+4.6815312E+03
47.0	11	+4.7634531E+03	+6.5131595E+02	+5.3610000E+03	+3.4020000E+03	+4.6727460E+03
48.0	10	+4.6347968E+03	+6.9228780E+02	+5.4470000E+03	+3.2470000E+03	+4.6639648E+03
49.0	6	+4.7461640E+03	+3.4985363E+02	+5.1830000E+03	+4.1640000E+03	+4.6551796E+03
50.0	9	+3.6004443E+03	+8.4729320E+02	+4.3600000E+03	+1.7890000E+03	+4.6463945E+03
51.0	3	+4.7926640E+03	+3.4981042E+02	+5.1960000E+03	+4.5720000E+03	+4.6376093E+03
52.0	2	+3.1420000E+03	+4.3726422E+01	+3.1730000E+03	+3.1110000E+03	+4.6288242E+03
53.0	12	+4.8109140E+03	+6.5004684E+02	+5.6250000E+03	+3.7380000E+03	+4.6200429E+03
54.0	7	+4.8647160E+03	+1.1704708E+03	+6.1120000E+03	+3.0680000E+03	+4.6112578E+03

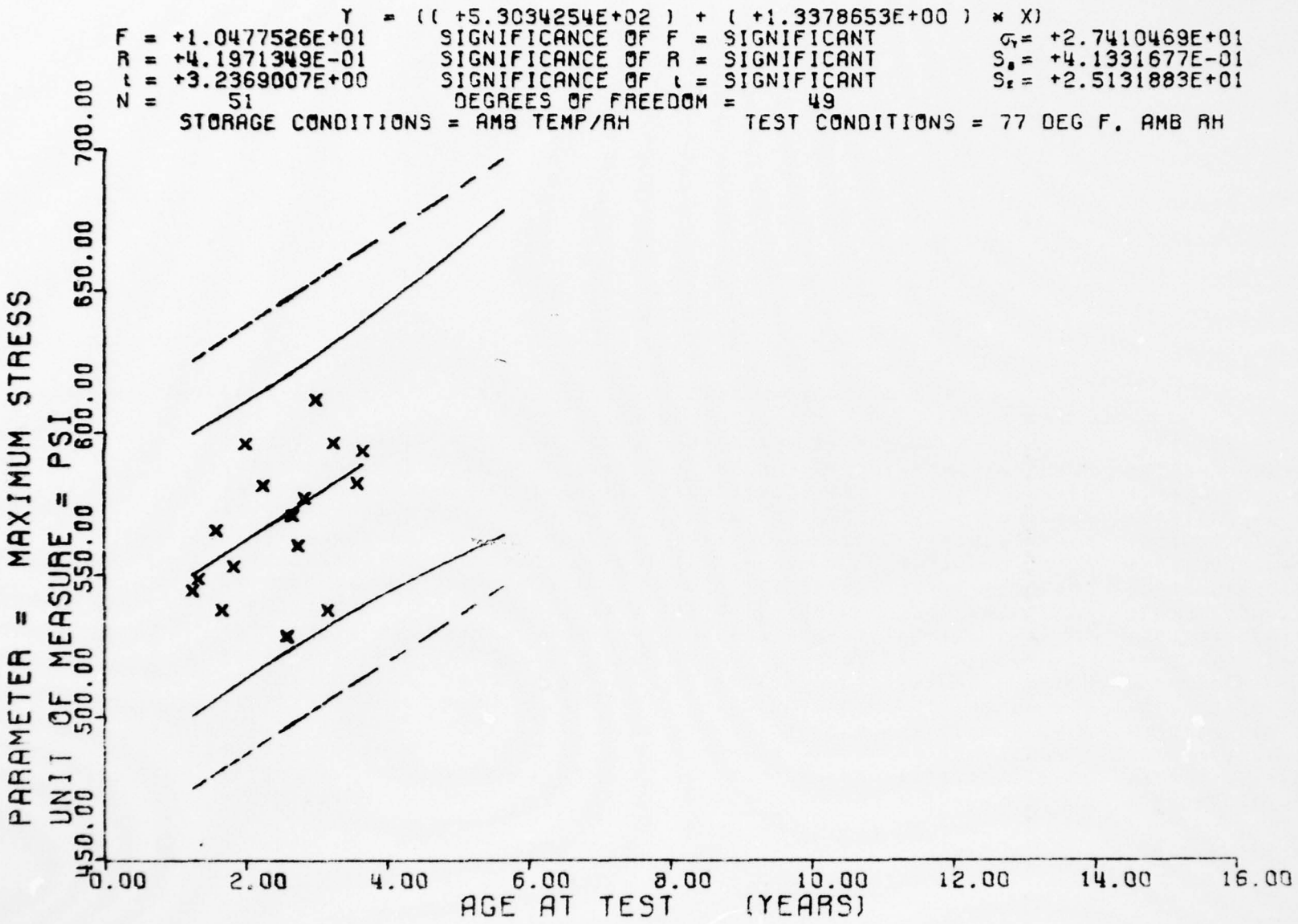
AVP 3066 PROPELLANT(ANT) TENSILE MODULUS, 1750 IN/MIN, 600 PSI, 77 DEG UNLND

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
56.0	6	+4.6055000E+03	+8.4891960E+02	+5.8690000E+03	+3.4900000E+03	+4.5936875E+03
57.0	6	+5.4385000E+03	+8.8636454E+02	+6.2120000E+03	+3.9740000E+03	+4.58[illegible]9023E+03
59.0	2	+5.7580000E+03	+6.3560994E+01	+5.8030000E+03	+5.7130000E+03	+4.5673359E+03
60.0	2	+6.5105000E+03	+7.5653816E+01	+6.5640000E+03	+6.4570000E+03	+4.5585507E+03
61.0	2	+5.5355000E+03	+1.4493964E+02	+5.6380000E+03	+5.4330000E+03	+4.5497656E+03
62.0	2	+4.9235000E+03	+7.0781318E+02	+5.4240000E+03	+4.4230000E+03	+4.5409804E+03
64.0	4	+5.4015000E+03	+4.6148419E+02	+5.7980000E+03	+4.7620000E+03	+4.5234140E+03
66.0	2	+3.5585000E+03	+7.8456994E+01	+3.6140000E+03	+3.5030000E+03	+4.5058437E+03
69.0	4	+3.7552500E+03	+3.2286516E+02	+4.0560000E+03	+3.4450000E+03	+4.4794921E+03
71.0	4	+3.3225000E+03	+1.2704723E+02	+3.5100000E+03	+3.2280000E+03	+4.4619218E+03
72.0	2	+2.8880000E+03	+4.6810255E+02	+3.2190000E+03	+2.5570000E+03	+4.4531406E+03

ANB 3066 PROPELLANT(ANT) TENSILE MODULUS, 1750 IN/MIN, 600 PSI, 77 DEG UNLND



ANB 3066 PROPLLNT (ANT P POLYMER) TENSILE SM, .750 IN/MIN 600 PSI 77 DEG LINED

Figure 5-19

****** LINEAR REGRESSION ANALYSIS ******

***** ANALYSIS OF TIME SERIES *****

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	3	+5.4463989E+02	+6.1073618E+00	+5.5085986E+02	+5.3866992E+02	+5.5041040E+02
16.0	3	+5.4878320E+02	+7.4891723E+00	+5.5734985E+02	+5.4355981E+02	+5.5174829E+02
19.0	3	+5.6552651E+02	+2.9032994E+01	+5.8417993E+02	+5.3244995E+02	+5.5576196E+02
20.0	3	+5.3783300E+02	+2.2058211E+01	+5.5227978E+02	+5.1244995E+02	+5.5709985E+02
22.0	3	+5.5314306E+02	+5.4148675E+00	+5.5690991E+02	+5.4694995E+02	+5.5977539E+02
24.0	3	+5.5634985E+02	+2.5398610E+01	+6.2001977E+02	+5.6347994E+02	+5.6245117E+02
27.0	6	+5.8172973E+02	+2.5837751E+01	+6.2500976E+02	+5.6240991E+02	+5.6646484E+02
31.0	3	+5.2870654E+02	+1.2377888E+01	+5.3987988E+02	+5.1540991E+02	+5.7181616E+02
32.0	3	+5.7121313E+02	+9.3309994E+00	+5.8114990E+02	+5.6265991E+02	+5.7315405E+02
33.0	3	+5.6060302E+02	+7.2003380E+00	+5.6516992E+02	+5.5231982E+02	+5.7449194E+02
34.0	5	+5.7734375E+02	+8.1456716E+00	+5.8877978E+02	+5.7026977E+02	+5.7582983E+02
36.0	2	+6.1184472E+02	+6.0425493E+00	+6.1609985E+02	+6.0758984E+02	+5.7850561E+02
38.0	2	+5.3790478E+02	+1.2247308E+01	+5.4655981E+02	+5.2925000E+02	+5.8118139E+02
39.0	5	+5.9664770E+02	+1.6580908E+01	+6.1726977E+02	+5.8262988E+02	+5.8251928E+02
43.0	2	+5.8244970E+02	+3.2008095E+01	+6.0507983E+02	+5.5981982E+02	+5.8787060E+02
44.0	2	+5.9392968E+02	+6.5916695E+00	+5.9856982E+02	+5.8928979E+02	+5.8920849E+02

ANB 3066 PROPLLNT (ANT P POLYMER) TENSILE SM. 1750 IN/MIN 600 PSI 77 DEG LINED

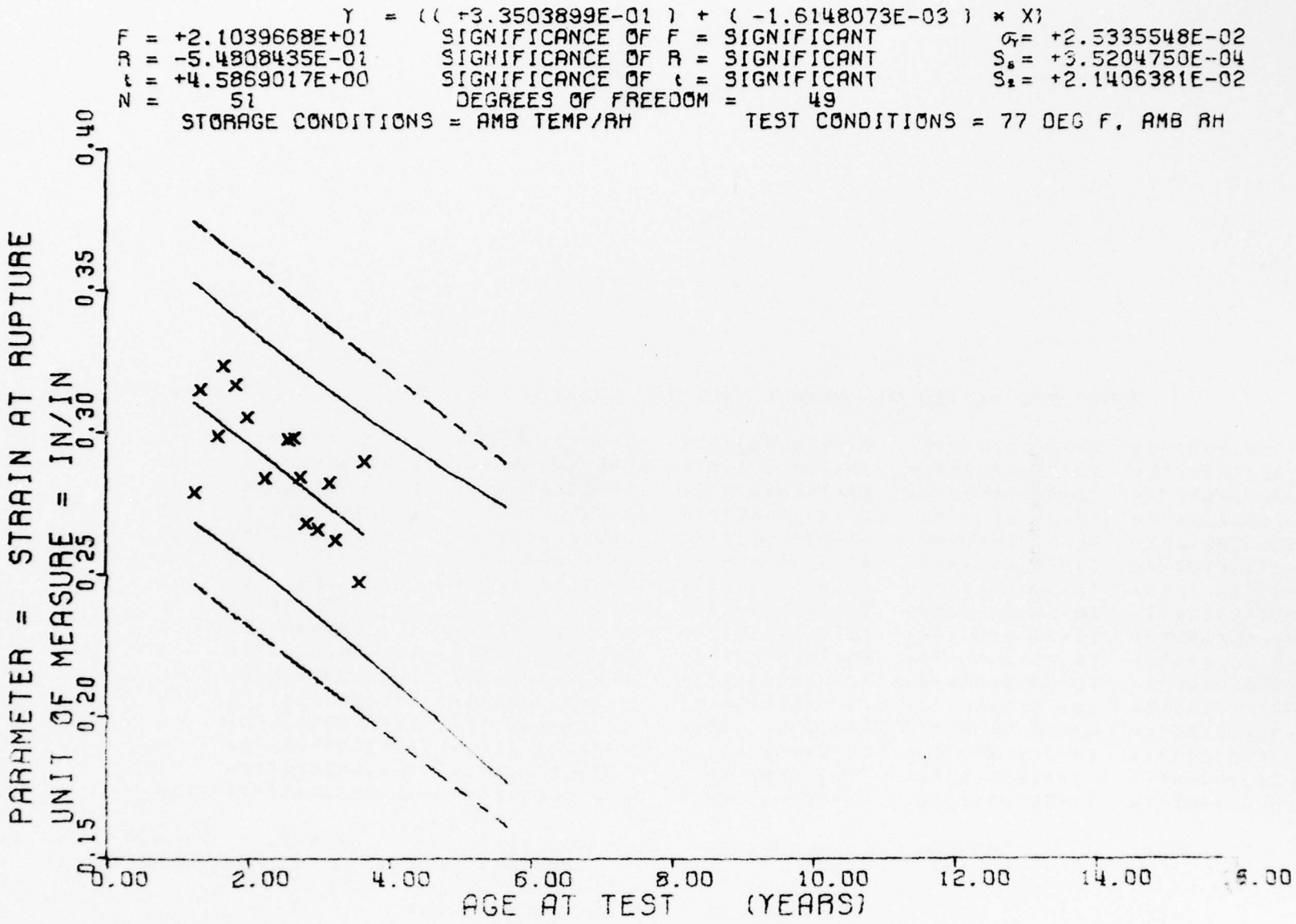

Y = ((+3.3503899E-01) + (-1.6148073E-03) * X)
F = +2.1039668E+01 SIGNIFICANCE OF F = SIGNIFICANT σr= +2.5335548E-02
R = -5.4808435E-01 SIGNIFICANCE OF R = SIGNIFICANT Sb= +3.5204750E-04
t = +4.5869017E+00 SIGNIFICANCE OF t = SIGNIFICANT Sa= +2.1406381E-02
N = 51 DEGREES OF FREEDOM = 49
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = STRAIN AT RUPTURE
UNIT OF MEASURE = IN/IN
0.40
0.35
0.30
0.25
0.20
0.15
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPLLNT (ANT P POLYMER) TENSILE ER, 1750 IN/MIN 600 PSI 77 DEG LINED

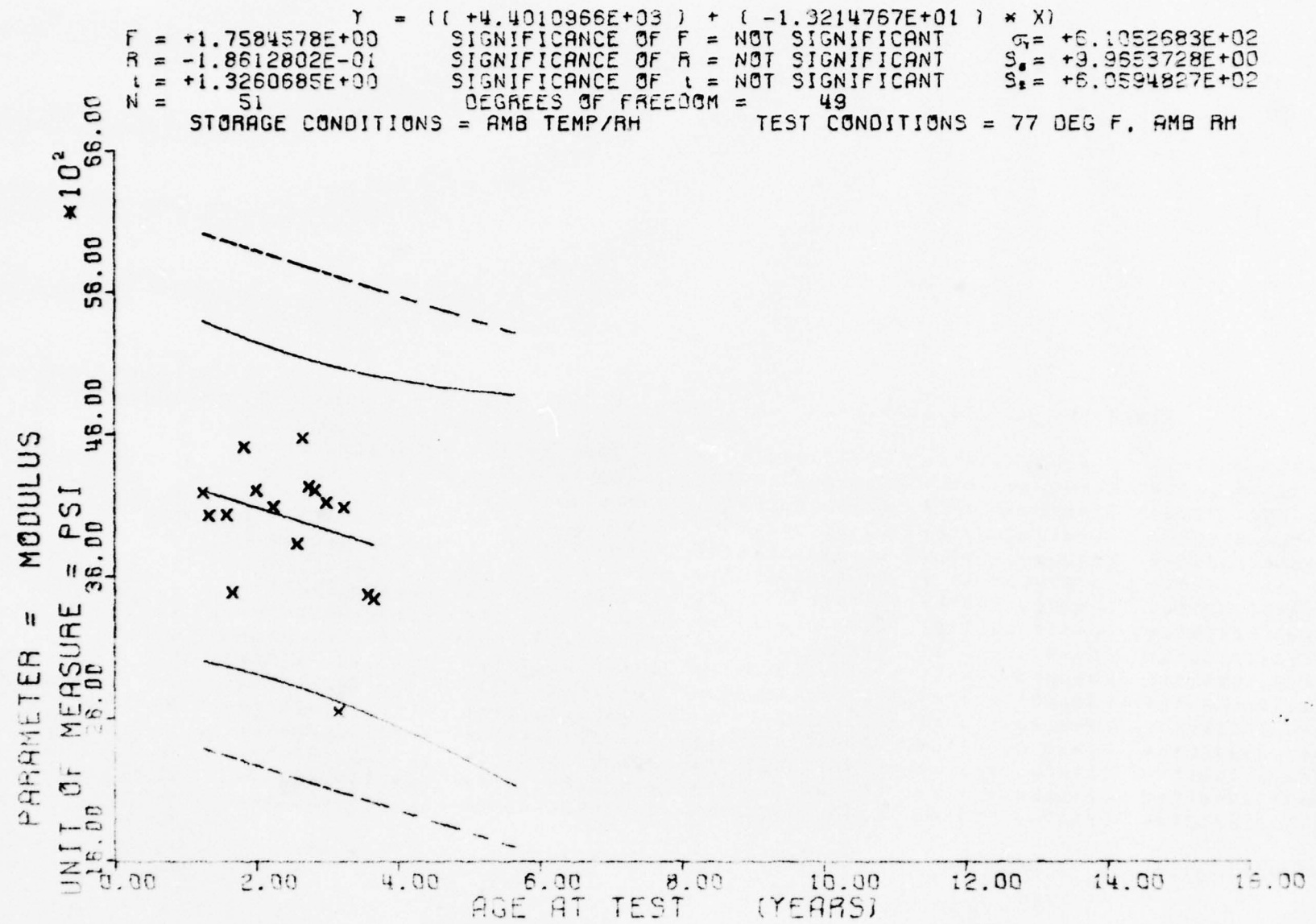
Figure 5-20

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	3	+2.7916657E-01	+1.6851599E-03	+2.8059995E-01	+2.7729994E-01	+3.1061688E-01
16.0	3	+3.1536662E-01	+2.3062255E-02	+3.4029996E-01	+2.9479998E-01	+3.0920207E-01
19.0	3	+2.9886662E-01	+1.3737838E-02	+3.1469994E-01	+2.9009997E-01	+3.0435764E-01
20.0	3	+3.2386660E-01	+4.2998195E-03	+3.2639998E-01	+3.1889998E-01	+3.0274283E-01
22.0	3	+3.1699997E-01	+2.6190794E-02	+3.4229999E-01	+2.8999996E-01	+2.9951322E-01
24.0	3	+3.0546659E-01	+2.3479935E-02	+3.2959997E-01	+2.8269994E-01	+2.9628360E-01
27.0	6	+2.8403294E-01	+2.0393668E-02	+3.1209999E-01	+2.5999999E-01	+2.9143917E-01
31.0	3	+2.9779994E-01	+1.3194786E-02	+3.1299996E-01	+2.8529996E-01	+2.8457953E-01
32.0	3	+2.9823327E-01	+2.2885772E-02	+3.1469994E-01	+2.7209997E-01	+2.8336513E-01
33.0	3	+2.8453332E-01	+1.8744473E-02	+3.0599999E-01	+2.7139997E-01	+2.8175032E-01
34.0	5	+2.6813983E-01	+1.8586370E-02	+2.9699999E-01	+2.4899995E-01	+2.8013551E-01
36.0	2	+2.6599997E-01	+7.0678377E-03	+2.7099996E-01	+2.6099997E-01	+2.7690589E-01
38.0	2	+2.8249996E-01	+1.3434832E-02	+2.9199999E-01	+2.7299994E-01	+2.7367627E-01
39.0	5	+2.6223963E-01	+1.6069810E-02	+2.8199994E-01	+2.4099999E-01	+2.7206146E-01
43.0	2	+2.4749994E-01	+2.8900895E-02	+2.6799994E-01	+2.2699999E-01	+2.6560223E-01
44.0	2	+2.8999996E-01	+1.4027190E-03	+2.9099994E-01	+2.8899997E-01	+2.6398742E-01

AND 3066 PROPLLNT (ANT P POLYMER) TENSILE ER, 1750 IN/MIN 600 PSI 77 DEG LINED



ANB 3066 PROPLLNT (ANT P POLYMER) TENSILE MOD, 1750 IN/MIN 600 PSI 77 DG. LINED

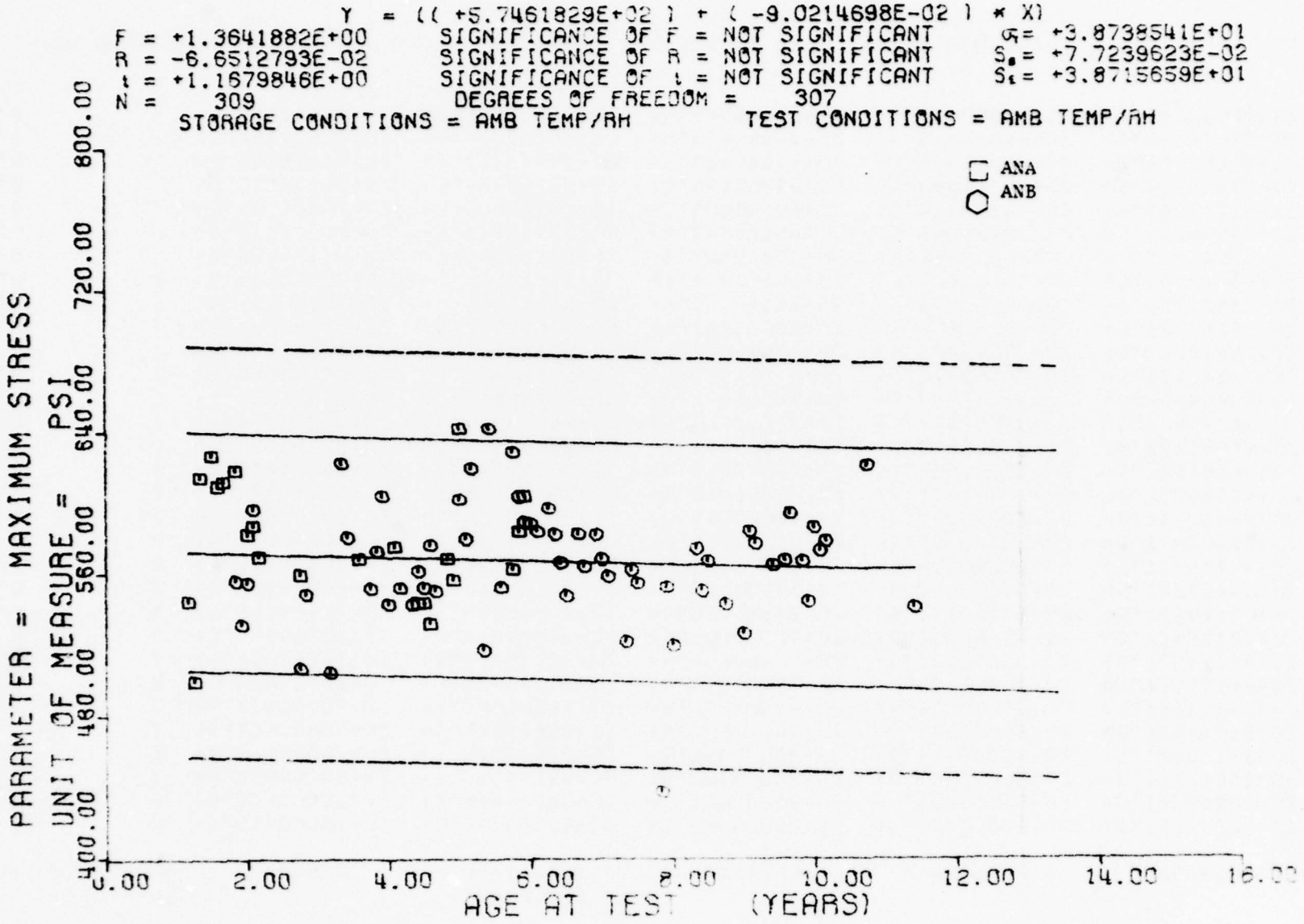
Figure 5-21

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGT (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	3	+4.191664[illegible]E+03	+2.2335584E+02	+4.445[illegible]E+03	+4.[illegible]E+03	+4.202[illegible]E+03
16.0	3	+4.[illegible]E+03	+5.[illegible]2982E+02	+4.431[illegible]E+03	+3.[illegible]E+03	+4.185[illegible]E+03
19.0	3	+4.[illegible]E+03	+3.[illegible]E+02	+4.395[illegible]E+03	+3.[illegible]E+03	+4.150[illegible]E+03
20.0	3	+3.488333[illegible]E+03	+3.[illegible]E+02	+3.651[illegible]E+03	+3.[illegible]E+03	+4.136[illegible]E+03
22.0	3	+4.515664[illegible]E+03	+6.[illegible]E+02	+5.219[illegible]E+03	+4.[illegible]E+03	+4.110[illegible]E+03
24.0	3	+4.212332[illegible]E+03	+6.[illegible]E+02	+4.579[illegible]E+03	+3.[illegible]E+03	+4.083[illegible]E+03
27.0	6	+4.[illegible]E+03	+5.[illegible]E+02	+4.[illegible]E+03	+3.[illegible]E+03	+4.[illegible]E+03
31.0	3	+3.833333[illegible]E+03	+2.[illegible]E+02	+4.[illegible]E+03	+3.[illegible]E+03	+3.991[illegible]E+03
32.0	3	+4.577664[illegible]E+03	+3.[illegible]E+02	+4.[illegible]E+03	+4.[illegible]E+03	+3.[illegible]E+03
33.0	1	+4.[illegible]E+03	+2.[illegible]E+02	+4.[illegible]E+03	+3.[illegible]E+03	+3.[illegible]E+03
34.0	3	+4.[illegible]E+03	+7.[illegible]E+02	+4.[illegible]E+03	+3.[illegible]E+03	+3.[illegible]E+03
36.0	2	+4.124500[illegible]E+03	+6.[illegible]E+02	+4.[illegible]E+03	+3.[illegible]E+03	+3.[illegible]E+03
38.0	3	+2.[illegible]E+03	+4.[illegible]E+01	+2.[illegible]E+03	+2.[illegible]E+03	+3.[illegible]E+03
39.0	5	+4.[illegible]E+03	+9.[illegible]E+02	+4.[illegible]E+03	+3.[illegible]E+03	+3.[illegible]E+03
43.0	2	+3.476500[illegible]E+03	+2.[illegible]E+02	+3.[illegible]E+03	+3.[illegible]E+03	+3.[illegible]E+03
44.0	2	+3.446000[illegible]E+03	+4.[illegible]E+01	+3.[illegible]E+03	+3.[illegible]E+03	+3.[illegible]E+03

ANB 3066 PROPELLNT (ANT P POLYMER) TENSILE MOD, 1750 IN/MIN 600 PSI 77 DG, LINED



ANB 3066 PROPLLNT (ANA & ANB, G POLYMER) TENSILE SM 1750 IN/MIN 600 PSI

Figure 5-22

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
14.0	2	+5.4500000E+02	+0.0000000E+19	+5.4500000E+02	+5.4500000E+02	+5.7335522E+02
15.0	2	+5.0000000E+02	+1.4142135E+01	+5.1000000E+02	+4.9000000E+02	+5.7326489E+02
16.0	2	+6.1500000E+02	+7.0710678E+00	+6.2000000E+02	+6.1000000E+02	+5.7317480E+02
18.0	2	+6.2750000E+02	+1.0606601E+01	+6.3500000E+02	+6.2000000E+02	+5.7299438E+02
19.0	2	+6.1000000E+02	+1.4142135E+01	+6.2000000E+02	+6.0000000E+02	+5.7290405E+02
20.0	2	+6.1250000E+02	+3.1819805E+01	+6.3500000E+02	+5.9000000E+02	+5.7281396E+02
22.0	6	+5.9796142E+02	+3.5833894E+01	+6.4500000E+02	+5.4873999E+02	+5.7263354E+02
23.0	2	+5.3182983E+02	+1.5388167E+01	+5.4270996E+02	+5.2094995E+02	+5.7254321E+02
24.0	4	+5.6906982E+02	+2.2741921E+01	+5.9000000E+02	+5.3669995E+02	+5.7245312E+02
25.0	4	+5.9236743E+02	+1.4689040E+01	+6.0820996E+02	+5.7500000E+02	+5.7236279E+02
26.0	2	+5.7000000E+02	+7.0710678E+00	+5.7500000E+02	+5.6500000E+02	+5.7227270E+02
33.0	4	+5.3375000E+02	+3.2755406E+01	+5.7500000E+02	+5.0500000E+02	+5.7164111E+02
34.0	6	+5.4916650E+02	+6.0861865E+01	+6.4500000E+02	+5.0500000E+02	+5.7155078E+02
38.0	1	+5.0500000E+02	+0.0000000E+71	+5.0500000E+02	+5.0500000E+02	+5.7118994E+02
40.0	2	+6.2294482E+02	+9.8393488E+00	+6.2989990E+02	+6.1598999E+02	+5.7100952E+02
41.0	4	+5.8125000E+02	+1.6007810E+01	+6.0500000E+02	+5.7000000E+02	+5.7091943E+02
43.0	2	+5.6895996E+02	+2.6457455E-02	+5.6895996E+02	+5.6895996E+02	+5.7073901E+02
45.0	7	+5.5229687E+02	+1.3088065E+01	+5.6931982E+02	+5.4097998E+02	+5.7055859E+02
46.0	5	+5.7339990E+02	+3.3346656E+00	+5.7643994E+02	+5.6795996E+02	+5.7046826E+02
47.0	2	+6.0458471E+02	+4.2464954E+00	+6.0755981E+02	+6.0160986E+02	+5.7037817E+02
48.0	4	+5.4338232E+02	+4.2273191E+01	+5.8395996E+02	+4.9000000E+02	+5.7028784E+02
49.0	1	+5.7579980E+02	+0.0000000E+03	+5.7579980E+02	+5.7579980E+02	+5.7019775E+02
50.0	2	+5.5250000E+02	+3.5355339E+00	+5.5500000E+02	+5.5000000E+02	+5.7010742E+02
52.0	3	+5.4299316E+02	+3.4555181E+00	+5.4689990E+02	+5.4039990E+02	+5.6992700E+02
53.0	10	+5.5654711E+02	+1.0772450E+01	+5.6865991E+02	+5.3853979E+02	+5.6983691E+02
54.0	17	+5.5102709E+02	+3.1182962E+01	+6.2203979E+02	+5.0500000E+02	+5.6974658E+02
55.0	11	+5.6453295E+02	+3.7990911E+01	+6.1000000E+02	+5.1276977E+02	+5.6965625E+02
56.0	6	+5.5058813E+02	+3.5224132E+01	+5.9610986E+02	+5.0009985E+02	+5.6956616E+02
58.0	6	+5.6896142E+02	+2.7159766E+01	+5.8793994E+02	+5.1848999E+02	+5.6938574E+02
59.0	1	+5.5694995E+02	+0.0000000E+35	+5.5694995E+02	+5.5694995E+02	+5.6929541E+02
60.0	5	+6.2555175E+02	+2.4260307E+01	+6.4965991E+02	+5.9000000E+02	+5.6920532E+02

ANB 3066 PROPLLNT (ANA & ANB, G POLYMER) TENSILE SM 1750 IN/MIN 600 PSI

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
61.0	2	+5.8000000E+02	+1.4142135E+01	+5.9000000E+02	+5.7000000E+02	+5.6911499E+02
62.0	2	+6.2000000E+02	+0.0000000E+47	+6.2000000E+02	+6.2000000E+02	+5.6902490E+02
64.0	2	+5.1756469E+02	+1.7750086E+01	+5.3010986E+02	+5.0501977E+02	+5.6884448E+02
65.0	2	+6.4250000E+02	+3.5355339E+00	+6.4500000E+02	+6.4000000E+02	+5.6875415E+02
67.0	4	+5.5250000E+02	+1.8484227E+01	+5.8000000E+02	+5.4000000E+02	+5.6857373E+02
69.0	10	+5.8919628E+02	+3.4834574E+01	+6.4000000E+02	+5.5352978E+02	+5.6839331E+02
70.0	10	+5.9789648E+02	+3.1103661E+01	+6.4945996E+02	+5.6000000E+02	+5.6830322E+02
71.0	11	+6.0169799E+02	+9.2555606E+00	+6.1928979E+02	+5.8150976E+02	+5.6821289E+02
72.0	8	+5.8360351E+02	+4.5400143E+01	+6.5090991E+02	+5.3000000E+02	+5.6812280E+02
73.0	4	+5.8422973E+02	+6.0579438E+01	+6.3939990E+02	+5.1325000E+02	+5.6803247E+02
75.0	2	+5.9750000E+02	+1.0606601E+01	+6.0500000E+02	+5.9000000E+02	+5.6785205E+02
76.0	4	+5.8272241E+02	+7.9027780E+00	+5.8925976E+02	+5.7196997E+02	+5.6776196E+02
77.0	9	+5.6665258E+02	+3.8685696E+01	+6.2756982E+02	+5.2000000E+02	+5.6767163E+02
78.0	9	+5.4799389E+02	+3.1066334E+01	+6.0200976E+02	+5.1458984E+02	+5.6758154E+02
80.0	2	+5.8302978E+02	+7.7927364E+00	+5.8851977E+02	+5.7753979E+02	+5.6740087E+02
81.0	9	+5.6458154E+02	+2.2799618E+01	+5.9264990E+02	+5.3000000E+02	+5.6731079E+02
83.0	2	+5.8269995E+02	+9.6194494E+00	+5.8950000E+02	+5.7589990E+02	+5.6713037E+02
84.0	6	+5.6838134E+02	+9.5548330E+00	+5.8425976E+02	+5.5950000E+02	+5.6704003E+02
85.0	2	+5.5872998E+02	+3.5256702E+00	+5.6121997E+02	+5.5623999E+02	+5.6694995E+02
88.0	6	+5.2239160E+02	+5.7038737E+01	+5.8295996E+02	+4.5000000E+02	+5.6667919E+02
89.0	3	+5.6244653E+02	+2.0974739E+01	+5.7597998E+02	+5.3828979E+02	+5.6658911E+02
90.0	4	+5.5508740E+02	+2.6745111E+01	+5.8032983E+02	+5.2892993E+02	+5.6649877E+02
94.0	2	+4.3786474E+02	+1.4550410E+01	+4.4814990E+02	+4.2757983E+02	+5.6613793E+02
95.0	4	+5.5308984E+02	+2.1207144E+01	+5.6657983E+02	+5.2172998E+02	+5.6604785E+02
96.0	4	+5.2019482E+02	+7.6348198E+00	+5.2834985E+02	+5.1000000E+02	+5.6595751E+02
100.0	2	+5.7443481E+02	+5.3567623E+00	+5.7821997E+02	+5.7064990E+02	+5.6559667E+02
101.0	2	+5.5044995E+02	+5.6082537E+00	+5.5440991E+02	+5.4648999E+02	+5.6550659E+02
102.0	8	+5.6732958E+02	+3.4280548E+01	+5.9489990E+02	+5.0965991E+02	+5.6541625E+02
105.0	2	+5.4314990E+02	+5.1773224E+00	+5.4679980E+02	+5.3950000E+02	+5.6514575E+02
108.0	2	+5.2655981E+02	+3.6001536E+00	+5.2906982E+02	+5.2404980E+02	+5.6487500E+02
109.0	2	+5.8410986E+02	+1.0223636E+01	+5.9132983E+02	+5.7688989E+02	+5.6478466E+02

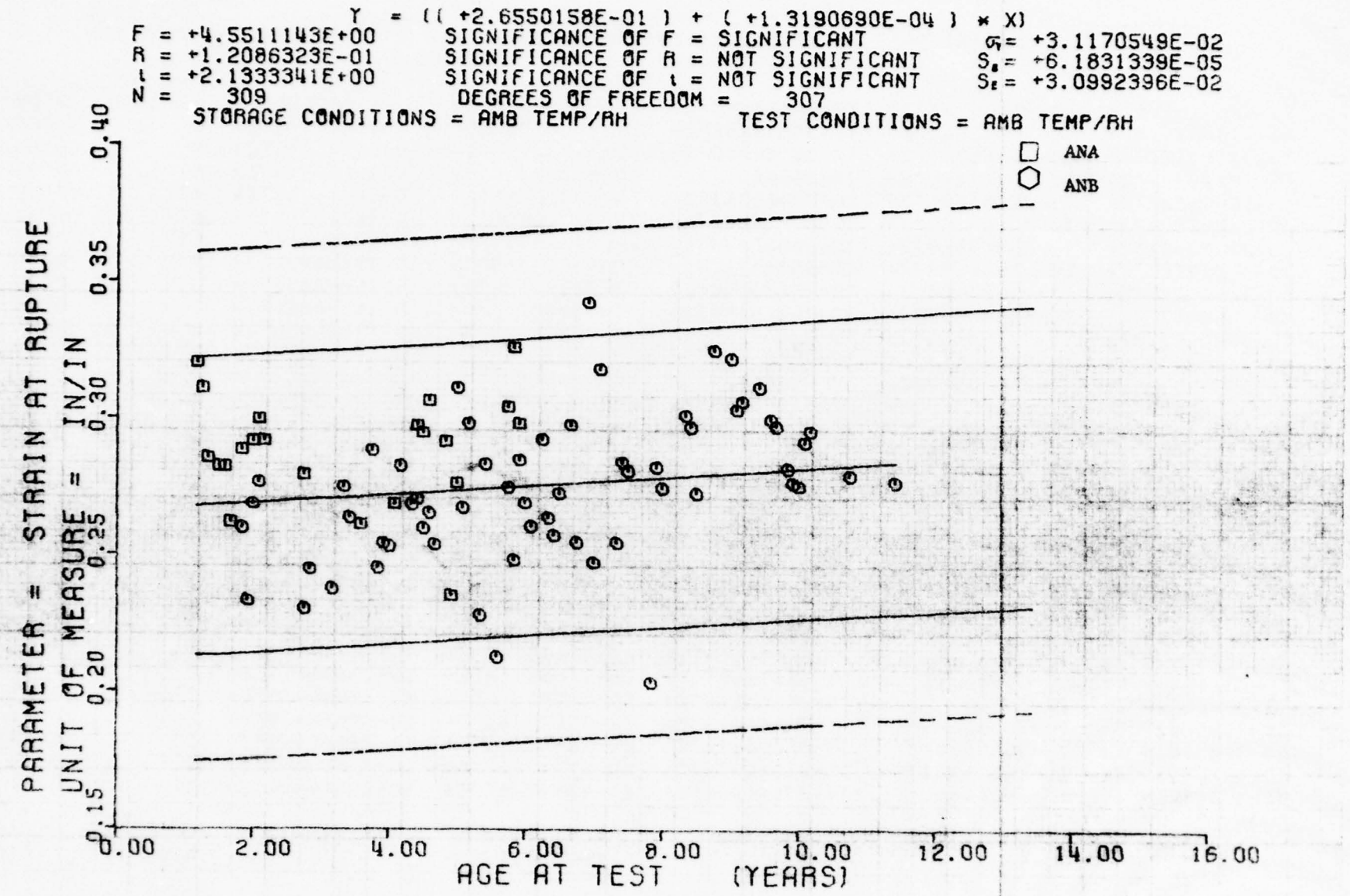
ANB 3066 PROPLLNT (ANA & ANB, G POLYMER) TENSILE SM 1750 IN/MIN 600 PSI

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
110.0	2	+5.7719995E+02	+2.4228566E+00	+5.7889990E+02	+5.7550000E+02	+5.6469458E+02
113.0	2	+5.6501977E+02	+2.5606317E+00	+5.6676977E+02	+5.6326977E+02	+5.6442382E+02
115.0	2	+5.6779980E+02	+8.9378277E-01	+5.6839990E+02	+5.6719995E+02	+5.6424340E+02
116.0	2	+5.9424975E+02	+5.0413451E+00	+5.9779980E+02	+5.9069995E+02	+5.6415332E+02
118.0	12	+5.6693750E+02	+5.7005943E+01	+6.2046997E+02	+4.7754980E+02	+5.6397290E+02
119.0	5	+5.4448168E+02	+5.1186877E+01	+5.9761987E+02	+4.7418994E+02	+5.6388256E+02
120.0	4	+5.8512988E+02	+2.4797551E+01	+6.1150000E+02	+5.5250000E+02	+5.6379248E+02
121.0	2	+5.7306982E+02	+2.4156744E+01	+5.9014990E+02	+5.5598999E+02	+5.6370214E+02
122.0	4	+5.7851489E+02	+5.2623271E+00	+5.8533984E+02	+5.7267993E+02	+5.6361206E+02
129.0	2	+6.2094970E+02	+5.8997438E+00	+6.2509985E+02	+6.1679980E+02	+5.6298046E+02
137.0	2	+5.4095483E+02	+5.5382919E+00	+5.4484985E+02	+5.3705981E+02	+5.6225878E+02

ANB 3066 PROPLLNT (ANA & ANB, G POLYMER) TENSILE SM 1750 IN/MIN 600 PSI



ANB 3066 PROPLLNT (ANA & ANB UNLNO, G POLYMER) TENSILE ER 1750 IN/MIN, 600 PSI

Figure 5-23

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
14.0	2	+3.2049995E-01	+2.1920089E-02	+3.3599996E-01	+3.0499994E-01	+2.6734822E-01
15.0	2	+3.1099998E-01	+9.3668466E-06	+3.1099998E-01	+3.1099998E-01	+2.6748013E-01
16.0	2	+2.8549998E-01	+9.1903654E-03	+2.9199999E-01	+2.7899998E-01	+2.6761.04E-01
18.0	2	+2.8249996E-01	+2.1918605E-02	+2.9799997E-01	+2.6699995E-01	+2.6787585E-01
19.0	2	+2.8249996E-01	+1.3434832E-02	+2.9199999E-01	+2.7299994E-01	+2.6800781E-01
20.0	2	+2.6199996E-01	+3.8182992E-02	+2.8899997E-01	+2.3499995E-01	+2.6813971E-01
22.0	6	+2.7914965E-01	+2.2568141E-02	+3.0499994E-01	+2.4869996E-01	+2.6840353E-01
23.0	2	+2.3339992E-01	+6.9320173E-03	+2.3829996E-01	+2.2849994E-01	+2.6853543E-01
24.0	4	+2.8042483E-01	+1.4846015E-02	+2.9799997E-01	+2.6369994E-01	+2.6866734E-01
25.0	4	+2.8842496E-01	+2.4315484E-02	+3.2399994E-01	+2.7029997E-01	+2.6879924E-01
26.0	2	+2.9199993E-01	+8.4839413E-03	+2.9799997E-01	+2.8599995E-01	+2.6893115E-01
33.0	4	+2.5499987E-01	+3.0211144E-02	+2.9199999E-01	+2.2699999E-01	+2.6985448E-01
34.0	6	+2.4499970E-01	+4.8741517E-02	+3.1199997E-01	+1.8099999E-01	+2.6998639E-01
38.0	1	+2.3799997E-01	+0.0000000E+71	+2.3799997E-01	+2.3799997E-01	+2.7051401E-01
40.0	2	+2.7534991E-01	+1.0394660E-02	+2.8269994E-01	+2.6799994E-01	+2.7077782E-01
41.0	4	+2.6399993E-01	+2.7006256E-02	+2.9299998E-01	+2.4099999E-01	+2.7090972E-01
43.0	2	+2.6149994E-01	+1.7746321E-04	+2.6149994E-01	+2.6149994E-01	+2.7117353E-01
45.0	7	+2.8859978E-01	+3.5599054E-02	+3.1309998E-01	+2.2059994E-01	+2.7143734E-01
46.0	5	+2.4547976E-01	+1.5943150E-02	+2.6299995E-01	+2.2499996E-01	+2.7156925E-01
47.0	2	+2.5459992E-01	+9.7579956E-03	+2.6149994E-01	+2.4769997E-01	+2.7170115E-01
48.0	4	+2.5344991E-01	+3.8897681E-02	+2.8359997E-01	+1.9899994E-01	+2.7183306E-01
49.0	1	+2.6899999E-01	+0.0000000E+03	+2.6899999E-01	+2.6899999E-01	+2.7196496E-01
50.0	2	+2.8299993E-01	+2.8240902E-03	+2.8499996E-01	+2.8099995E-01	+2.7209687E-01
52.0	3	+2.6879996E-01	+1.0499209E-02	+2.7629995E-01	+2.5679999E-01	+2.7236074E-01
53.0	10	+2.7893978E-01	+1.3413574E-02	+3.0219995E-01	+2.6749998E-01	+2.7249264E-01
54.0	17	+2.6621723E-01	+3.9846817E-02	+3.2209998E-01	+1.5599995E-01	+2.7262455E-01
55.0	11	+2.7701783E-01	+2.9412564E-02	+3.1119996E-01	+2.3499995E-01	+2.7275645E-01
56.0	6	+2.5408315E-01	+1.6919746E-02	+2.7879995E-01	+2.3799997E-01	+2.7288836E-01
58.0	6	+2.9171639E-01	+1.2448180E-02	+3.0989998E-01	+2.7829998E-01	+2.7315217E-01
59.0	1	+2.3539996E-01	+0.0000000E+35	+2.3539996E-01	+2.3539996E-01	+2.7328407E-01
60.0	5	+2.9053974E-01	+2.2562300E-02	+3.2699996E-01	+2.7349996E-01	+2.7341598E-01

ANB 3066 PROPLLNT (ANA & ANB UNLND, G POLYMER) TENSILE ER 1750 IN/MIN, 600 PSI

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
61.0	2	+2.6749998E-01	+2.4748653E-02	+2.8499996E-01	+2.5000000E-01	+2.7354788E-01
62.0	2	+2.9849994E-01	+9.1907829E-03	+3.0499994E-01	+2.9199999E-01	+2.7367979E-01
64.0	2	+2.2819995E-01	+2.0646958E-02	+2.4279999E-01	+2.1359997E-01	+2.7394360E-01
65.0	2	+2.8349995E-01	+1.3434547E-02	+2.9299998E-01	+2.7399998E-01	+2.7407550E-01
67.0	4	+2.1299993E-01	+5.7141230E-03	+2.1999996E-01	+2.0599997E-01	+2.7433931E-01
69.0	10	+2.9283970E-01	+1.8320957E-02	+3.1299996E-01	+2.6469999E-01	+2.7460312E-01
70.0	10	+2.7173966E-01	+4.3910759E-02	+3.3899998E-01	+2.1999996E-01	+2.7473503E-01
71.0	11	+2.9592686E-01	+1.6996659E-02	+3.1499999E-01	+2.5499999E-01	+2.7486693E-01
72.0	8	+2.6916217E-01	+2.4875952E-02	+2.9699999E-01	+2.2799998E-01	+2.7499884E-01
73.0	4	+2.6047492E-01	+4.4014781E-02	+2.8409999E-01	+1.9449996E-01	+2.7513074E-01
75.0	2	+2.9249995E-01	+4.9460191E-03	+2.9599994E-01	+2.8899997E-01	+2.7539455E-01
76.0	4	+2.6374983E-01	+4.9163270E-03	+2.6849997E-01	+2.5819998E-01	+2.7552646E-01
77.0	9	+2.5722193E-01	+2.2985323E-02	+2.8939998E-01	+2.1999996E-01	+2.7565836E-01
78.0	9	+2.7274417E-01	+3.4294227E-02	+3.1329995E-01	+2.2449994E-01	+2.7579027E-01
80.0	2	+2.9789996E-01	+2.9650728E-03	+2.9999995E-01	+2.9579997E-01	+2.7605408E-01
81.0	9	+2.5473308E-01	+1.4230329E-02	+2.7199995E-01	+2.2799998E-01	+2.7618598E-01
83.0	2	+3.4259992E-01	+9.3335779E-03	+3.4919995E-01	+3.3599996E-01	+2.7644979E-01
84.0	6	+2.4733304E-01	+6.0439971E-02	+3.2599997E-01	+1.7889994E-01	+2.7658170E-01
85.0	2	+3.1819993E-01	+5.9399765E-03	+3.2239997E-01	+3.1399995E-01	+2.7671366E-01
88.0	6	+2.5466644E-01	+2.4787896E-02	+2.7899998E-01	+2.1999996E-01	+2.7710938E-01
89.0	3	+2.8406661E-01	+1.3477935E-02	+2.9899996E-01	+2.7279996E-01	+2.7724128E-01
90.0	4	+2.8099989E-01	+1.4100963E-02	+3.0099999E-01	+2.6799994E-01	+2.7737319E-01
94.0	2	+2.0369994E-01	+4.2435948E-03	+2.0669996E-01	+2.0069998E-01	+2.7790081E-01
95.0	4	+2.8249979E-01	+5.6963429E-03	+2.8899997E-01	+2.7599996E-01	+2.7803272E-01
96.0	4	+2.7474975E-01	+4.1211447E-02	+3.0799996E-01	+2.1999996E-01	+2.7816462E-01
100.0	2	+3.0154991E-01	+9.4051879E-03	+3.0819994E-01	+2.9489994E-01	+2.7869224E-01
101.0	2	+2.9599993E-01	+1.4140953E-02	+3.0699998E-01	+2.8699994E-01	+2.7882415E-01
102.0	8	+2.7279973E-01	+1.9683442E-02	+2.9669994E-01	+2.3819994E-01	+2.7895605E-01
105.0	2	+3.2524996E-01	+4.5940192E-03	+3.2849997E-01	+3.2199996E-01	+2.7935177E-01
108.0	2	+3.2224994E-01	+3.1773070E-03	+3.2449996E-01	+3.1999999E-01	+2.7974748E-01
109.0	2	+3.0334997E-01	+9.2603724E-03	+3.0989998E-01	+2.9679995E-01	+2.7987939E-01

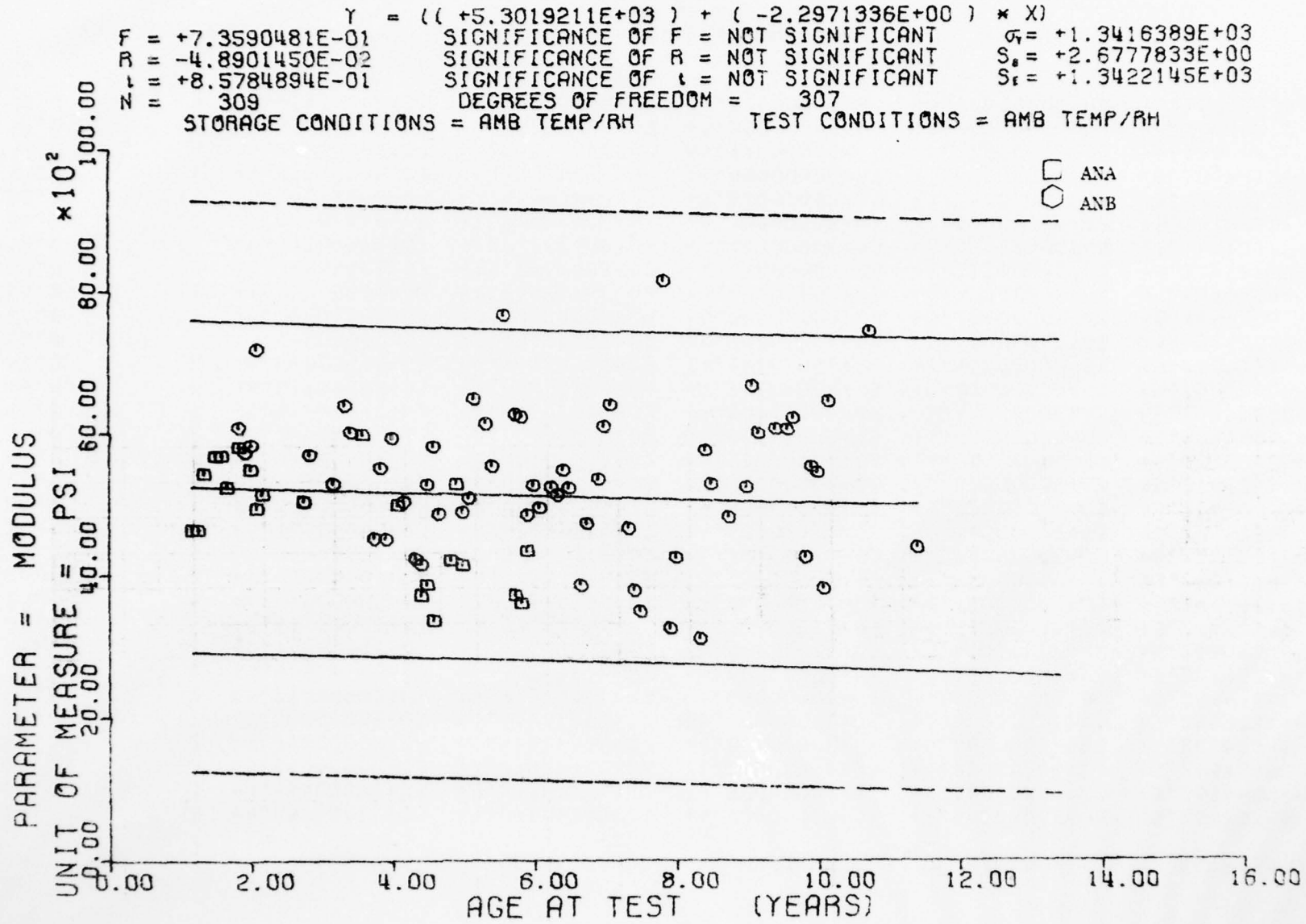
ANB 3066 PROPLLNT (ANA & ANB UNLND, G POLYMER) TENSILE ER 1750 IN/MIN, 600 PSI

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
110.0	2	+3.0654996E-01	+6.1404055E-04	+3.0699998E-01	+3.0609995E-01	+2.8001129E-01
113.0	2	+3.1174993E-01	+1.7243795E-04	+3.1179994E-01	+3.1169998E-01	+2.8040701E-01
115.0	2	+2.9974997E-01	+1.0534271E-02	+3.0719995E-01	+2.9229998E-01	+2.8067082E-01
116.0	2	+2.9729992E-01	+8.9091572E-03	+3.0359995E-01	+2.9099994E-01	+2.8080272E-01
118.0	12	+2.8176641E-01	+2.2457355E-02	+3.1949996E-01	+2.4349999E-01	+2.8106659E-01
119.0	5	+2.7649974E-01	+2.1760764E-02	+3.0239999E-01	+2.5369995E-01	+2.8119850E-01
120.0	4	+2.7539992E-01	+6.4490516E-03	+2.8059995E-01	+2.6599997E-01	+2.8133040E-01
121.0	2	+2.9149997E-01	+1.2019944E-02	+2.9999995E-01	+2.8299999E-01	+2.8146231E-01
122.0	4	+2.9564976E-01	+3.4519689E-03	+2.9839998E-01	+2.9089999E-01	+2.8159421E-01
129.0	2	+2.7924996E-01	+3.4626055E-03	+2.8169995E-01	+2.7679997E-01	+2.8251755E-01
137.0	2	+2.7699995E-01	+1.8382597E-02	+2.8999996E-01	+2.6399999E-01	+2.8357279E-01

ANB 3066 PROPLLNT (ANA & ANB UNLND, G POLYMER) TENSILE ER 1750 IN/MIN, 600 PSI



ANB 3066 PROPLLNT (ANA & ANB UNLND, G POLYMER) TENSILE MOD 1750 IN/MIN, 600 PSI

Figure 5-24

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
14.0	2	+4.6500000E+03	+7.0710678E+01	+4.7000000E+03	+4.6000000E+03	+5.2697578E+03
15.0	2	+4.6500000E+03	+3.5355339E+02	+4.9000000E+03	+4.4000000E+03	+5.2674609E+03
16.0	2	+5.4500000E+03	+7.7781745E+02	+6.0000000E+03	+4.9000000E+03	+5.2651640E+03
18.0	2	+5.7000000E+03	+1.4142135E+02	+5.8000000E+03	+5.6000000E+03	+5.2605703E+03
19.0	2	+5.7000000E+03	+1.4142135E+02	+5.8000000E+03	+5.6000000E+03	+5.2582734E+03
20.0	2	+5.2500000E+03	+4.9497474E+02	+5.6000000E+03	+4.9000000E+03	+5.2559765E+03
22.0	6	+5.9166640E+03	+5.2694085E+02	+6.6000000E+03	+5.1000000E+03	+5.2513828E+03
23.0	2	+5.7500000E+03	+2.1213203E+02	+5.9000000E+03	+5.6000000E+03	+5.2490859E+03
24.0	4	+5.6750000E+03	+3.5939764E+02	+6.2000000E+03	+5.4000000E+03	+5.2467890E+03
25.0	4	+6.0750000E+03	+1.4032699E+03	+7.8000000E+03	+4.7000000E+03	+5.2444921E+03
26.0	2	+5.1500000E+03	+3.5355339E+02	+5.4000000E+03	+4.9000000E+03	+5.2421953E+03
33.0	4	+5.0500000E+03	+2.3804761E+02	+5.3000000E+03	+4.8000000E+03	+5.2261132E+03
34.0	6	+5.7166640E+03	+6.8239773E+02	+6.6000000E+03	+5.0000000E+03	+5.2238164E+03
38.0	1	+5.3000000E+03	+0.0000000E+71	+5.3000000E+03	+5.3000000E+03	+5.2146289E+03
40.0	2	+6.4100000E+03	+8.6267027E+02	+7.0200000E+03	+5.8000000E+03	+5.2100351E+03
41.0	4	+6.0250000E+03	+9.0691785E+02	+6.9000000E+03	+4.9000000E+03	+5.2077382E+03
43.0	2	+6.0000000E+03	+0.0000000E+83	+6.0000000E+03	+6.0000000E+03	+5.2031406E+03
45.0	7	+4.5314257E+03	+1.6618149E+03	+7.1000000E+03	+3.4360000E+03	+5.1985468E+03
46.0	5	+5.5243984E+03	+1.4906548E+03	+7.3000000E+03	+3.8780000E+03	+5.1962500E+03
47.0	2	+4.5210000E+03	+2.4039550E+02	+4.6910000E+03	+4.3510000E+03	+5.1939531E+03
48.0	4	+5.9500000E+03	+5.4467115E+02	+6.7000000E+03	+5.5000000E+03	+5.1916562E+03
49.0	1	+5.0000000E+03	+0.0000000E+03	+5.0000000E+03	+5.0000000E+03	+5.1893593E+03
50.0	2	+5.0500000E+03	+4.9497474E+02	+5.4000000E+03	+4.7000000E+03	+5.1870625E+03
52.0	3	+4.2466640E+03	+1.1746205E+02	+4.3280000E+03	+4.1120000E+03	+5.1824687E+03
53.0	10	+4.0328999E+03	+2.7726118E+02	+4.4870000E+03	+3.6970000E+03	+5.1801718E+03
54.0	17	+5.0456445E+03	+1.8216997E+03	+8.3000000E+03	+2.6400000E+03	+5.1778750E+03
55.0	11	+5.1661796E+03	+1.8559266E+03	+7.4000000E+03	+3.1590000E+03	+5.1755781E+03
56.0	5	+4.8760000E+03	+1.1950484E+03	+6.6000000E+03	+3.6080000E+03	+5.1732812E+03
58.0	6	+4.2245000E+03	+4.0682145E+02	+4.7360000E+03	+3.7290000E+03	+5.1686835E+03
59.0	1	+5.3000000E+03	+0.0000000E+35	+5.3000000E+03	+5.3000000E+03	+5.1663867E+03
60.0	5	+4.4543984E+03	+4.5940047E+02	+4.9000000E+03	+3.8260000E+03	+5.1640898E+03

ANB 3066 PROPLLNT (ANA & ANB UNLND, G POLYMER) TENSILE MOD 1750 IN/MIN, 600 PSI

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
61.0	2	+5.1000000E+03	+1.4142135E+02	+5.2000000E+03	+5.0000000E+03	+5.1617929E+03
62.0	2	+6.5000000E+03	+1.4142135E+02	+6.6000000E+03	+6.4000000E+03	+5.1594960E+03
64.0	2	+6.1500000E+03	+3.5355339E+02	+6.4000000E+03	+5.9000000E+03	+5.1549023E+03
65.0	2	+5.5500000E+03	+7.0710678E+01	+5.6000000E+03	+5.5000000E+03	+5.1526054E+03
67.0	4	+7.6750000E+03	+3.5939764E+02	+8.2000000E+03	+7.4000000E+03	+5.1480117E+03
69.0	10	+4.7455976E+03	+1.3278041E+03	+6.4120000E+03	+3.4450000E+03	+5.1434179E+03
70.0	10	+5.4556992E+03	+1.4439931E+03	+7.5000000E+03	+3.5850000E+03	+5.1411210E+03
71.0	11	+4.4471796E+03	+3.5470898E+02	+4.9970000E+03	+3.9190000E+03	+5.1388242E+03
72.0	8	+5.2753750E+03	+1.6119023E+03	+7.7000000E+03	+3.5840000E+03	+5.1365273E+03
73.0	4	+4.9560000E+03	+1.4768669E+03	+6.9500000E+03	+3.7950000E+03	+5.1342265E+03
75.0	2	+5.2500000E+03	+7.0710678E+01	+5.3000000E+03	+5.2000000E+03	+5.1296328E+03
76.0	4	+5.1397500E+03	+4.1260463E+02	+5.5440000E+03	+4.5680000E+03	+5.1273359E+03
77.0	9	+5.4882187E+03	+1.0590901E+03	+7.6000000E+03	+4.3260000E+03	+5.1250390E+03
78.0	9	+5.2352187E+03	+1.5058234E+03	+7.7000000E+03	+3.6510000E+03	+5.1227421E+03
80.0	2	+3.8705000E+03	+3.0475481E+02	+4.0860000E+03	+3.6550000E+03	+5.1181484E+03
81.0	9	+4.7378867E+03	+1.9012890E+03	+7.7000000E+03	+2.6350000E+03	+5.1158515E+03
83.0	2	+5.3665000E+03	+2.9769027E+02	+5.5770000E+03	+5.1560000E+03	+5.1112578E+03
84.0	6	+6.1101640E+03	+1.1847251E+03	+7.7660000E+03	+4.3800000E+03	+5.1089609E+03
85.0	2	+6.4145000E+03	+2.1213203E+00	+6.4160000E+03	+6.4130000E+03	+5.1066640E+03
88.0	6	+4.6621640E+03	+1.1449321E+03	+6.7000000E+03	+3.6620000E+03	+5.0997695E+03
89.0	3	+3.7913332E+03	+5.9438651E+02	+4.1790000E+03	+3.1070000E+03	+5.0974726E+03
90.0	4	+3.4955000E+03	+9.2335312E+02	+4.4110000E+03	+2.3030000E+03	+5.0951757E+03
94.0	2	+8.1500000E+03	+7.0710678E+01	+8.2000000E+03	+8.1000000E+03	+5.0859882E+03
95.0	4	+3.2532500E+03	+7.8656759E+02	+3.9460000E+03	+2.5400000E+03	+5.0836914E+03
96.0	4	+4.2527500E+03	+1.9008620E+03	+6.4000000E+03	+2.5330000E+03	+5.0813945E+03
100.0	2	+3.1125000E+03	+1.6899556E+02	+3.2320000E+03	+2.9930000E+03	+5.0722070E+03
101.0	2	+5.7635000E+03	+9.6868467E+01	+5.8320000E+03	+5.6950000E+03	+5.0699101E+03
102.0	8	+5.2867500E+03	+1.5240931E+03	+7.5100000E+03	+3.6750000E+03	+5.0676132E+03
105.0	2	+4.8180000E+03	+9.3903354E+02	+5.4820000E+03	+4.1540000E+03	+5.0607187E+03
108.0	2	+5.2450000E+03	+8.4841027E+01	+5.3050000E+03	+5.1850000E+03	+5.0538281E+03
109.0	2	+6.6720000E+03	+6.2225396E+02	+7.1120000E+03	+6.2320000E+03	+5.0515312E+03

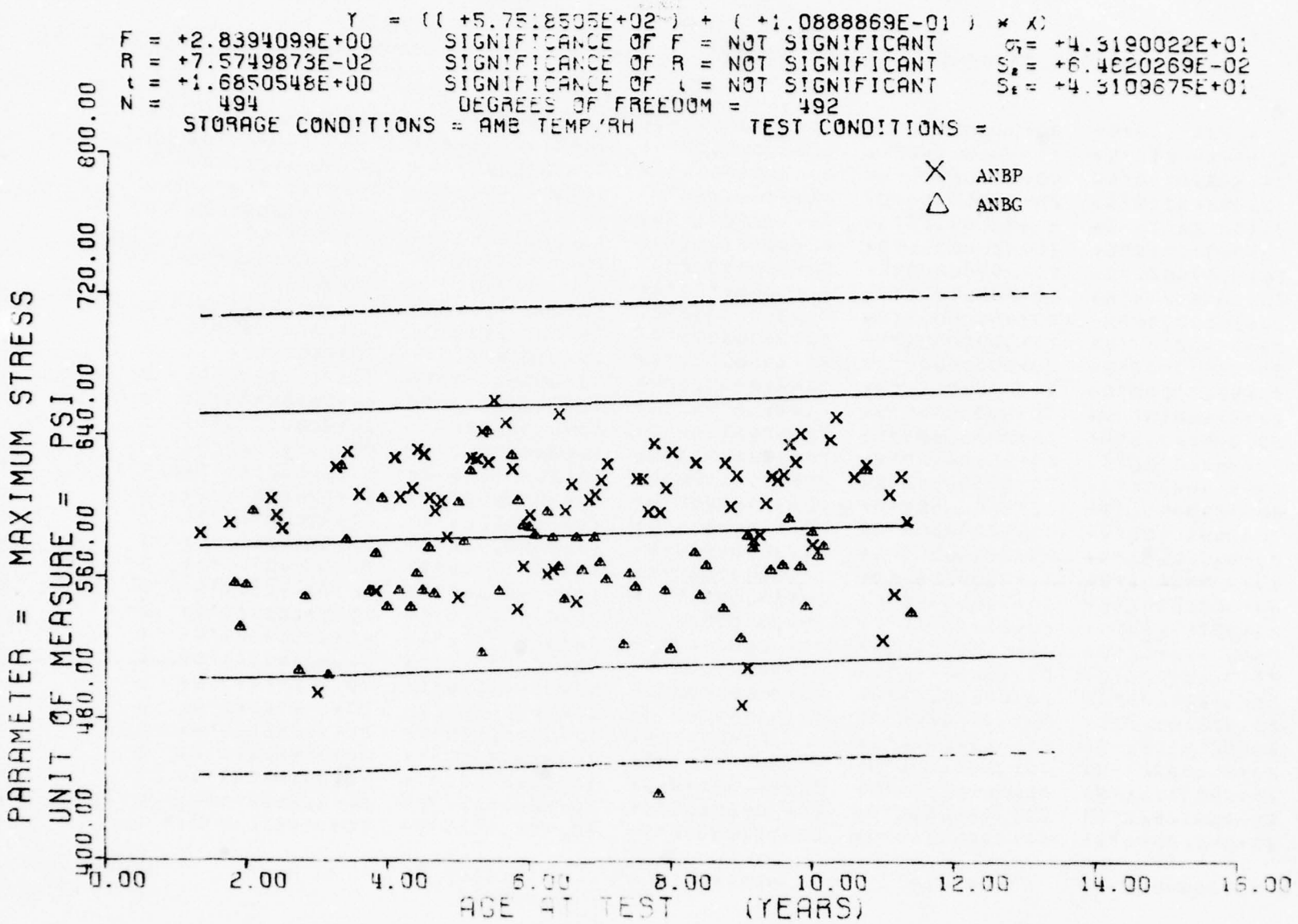
ANB 3066 PROPLLNT (ANA & ANB UNLND, G POLYMER) TENSILE MOD 1750 IN/MIN, 600 PSI

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
110.0	2	+6.0350000E+03	+2.2908077E+02	+6.1670000E+03	+5.8430000E+03	+5.0492343E+03
113.0	2	+6.0650000E+03	+2.2767959E+02	+6.2260000E+03	+5.9040000E+03	+5.0423437E+03
115.0	2	+6.0540000E+03	+1.1483379E+03	+6.8660000E+03	+5.2420000E+03	+5.0377500E+03
116.0	2	+6.2205000E+03	+4.0292679E+01	+6.2490000E+03	+6.1920000E+03	+5.0354531E+03
118.0	12	+4.2490000E+03	+1.1678706E+03	+6.8650000E+03	+3.1950000E+03	+5.0308554E+03
119.0	5	+5.5251992E+03	+1.7565495E+03	+7.0900000E+03	+3.4110000E+03	+5.0285585E+03
120.0	4	+5.4470000E+03	+1.7685063E+03	+7.1860000E+03	+3.9160000E+03	+5.0262617E+03
121.0	2	+3.8110000E+03	+1.6118932E+02	+3.9250000E+03	+3.6970000E+03	+5.0239648E+03
122.0	4	+6.4490000E+03	+2.6912946E+02	+6.6070000E+03	+6.0470000E+03	+5.0216679E+03
129.0	2	+7.4345000E+03	+1.6896005E+02	+7.5540000E+03	+7.3150000E+03	+5.0055898E+03
137.0	2	+4.3885000E+03	+2.4484689E+01	+4.4060000E+03	+4.3710000E+03	+4.9872109E+03

ANB 3066 PROPLLNT (ANA & ANB UNLND, G POLYMER) TENSILE MOD 1750 IN/MIN, 600 PSI



ANB 3066 PROPLLNT (ANB UNLINED, B & P POLYMER) TENSILE SM, 1750 IN/MIN, 600 PSI

Figure 5-25

****** LINEAR REGRESSION ANALYSIS ******

***** ANALYSIS OF TIME SERIES *****

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
16.0	8	+5.8472949E+02	+2.5755353E+01	+6.2000000E+02	+5.3979980E+02	+5.7692724E+02
21.0	2	+5.9086937E+02	+2.6774965E+01	+6.0979980E+02	+5.7193994E+02	+5.7747167E+02
22.0	2	+5.8638476E+02	+1.0820743E+01	+5.9402978E+02	+5.7873999E+02	+5.7758056E+02
23.0	2	+5.8182983E+02	+1.5388167E+01	+5.9270996E+02	+5.7094995E+02	+5.7768945E+02
24.0	2	+5.8563989E+02	+2.6788421E+01	+5.9457983E+02	+5.7669995E+02	+5.7779833E+02
25.0	2	+5.8723486E+02	+1.5529364E+01	+6.0820996E+02	+5.8625976E+02	+5.7790722E+02
28.0	6	+6.0494985E+02	+1.5906239E+01	+6.2038989E+02	+5.8370996E+02	+5.7823388E+02
29.0	2	+5.9525488E+02	+2.7530646E+01	+6.1471997E+02	+5.7578979E+02	+5.7834277E+02
30.0	4	+5.8786987E+02	+1.7224492E+01	+6.0767993E+02	+5.6721997E+02	+5.7845166E+02
33.0	2	+5.8750000E+02	+3.5355339E+00	+5.9000000E+02	+5.8500000E+02	+5.7877832E+02
34.0	6	+5.8916650E+02	+6.0861865E+01	+6.4500000E+02	+5.8500000E+02	+5.7888720E+02
36.0	2	+4.9500000E+02	+1.4142135E+01	+5.0500000E+02	+4.8500000E+02	+5.7910498E+02
38.0	1	+5.8500000E+02	+0.0000000E+11	+5.8500000E+02	+5.8500000E+02	+5.7932275E+02
39.0	4	+6.2250000E+02	+2.5000000E+01	+6.5000000E+02	+5.9000000E+02	+5.7943164E+02
40.0	2	+6.2294492E+02	+9.8993488E+00	+6.2989990E+02	+6.1598999E+02	+5.7954052E+02
41.0	6	+5.9792651E+02	+2.8804269E+01	+6.3590991E+02	+5.7000000E+02	+5.7964941E+02
43.0	2	+6.0702490E+02	+6.4302697E+00	+6.1155981E+02	+6.0248999E+02	+5.7986718E+02
45.0	7	+5.8229687E+02	+1.3088065E+01	+5.6931982E+02	+5.4097998E+02	+5.8008496E+02
46.0	7	+5.6742846E+02	+1.6738136E+01	+5.7643994E+02	+5.3000000E+02	+5.8019384E+02
47.0	2	+6.0458471E+02	+4.2464954E+00	+6.0755981E+02	+6.0160986E+02	+5.8030273E+02
48.0	4	+5.4338232E+02	+4.2273191E+01	+5.8395996E+02	+4.9000000E+02	+5.8041162E+02
49.0	2	+6.2750000E+02	+2.4748737E+01	+6.4500000E+02	+6.1000000E+02	+5.8052050E+02
50.0	4	+5.7875000E+02	+3.2755406E+01	+6.2000000E+02	+5.5000000E+02	+5.8062939E+02
52.0	6	+5.6987573E+02	+3.7071333E+01	+6.1541992E+02	+5.4039990E+02	+5.8084716E+02
53.0	9	+5.7757334E+02	+3.1751080E+01	+6.3804980E+02	+5.5025976E+02	+5.8095605E+02
54.0	10	+5.5214965E+02	+4.1438000E+01	+6.3451977E+02	+5.0500000E+02	+5.8106494E+02
55.0	12	+5.8599145E+02	+3.3835202E+01	+6.2000000E+02	+5.1276977E+02	+5.8117382E+02
56.0	8	+5.6229101E+02	+3.7268351E+01	+6.0815991E+02	+5.0009985E+02	+5.8128271E+02
57.0	6	+6.0331494E+02	+4.7557310E+01	+6.4500000E+02	+5.3694995E+02	+5.8139160E+02
58.0	5	+5.8289575E+02	+3.6655740E+01	+6.2000000E+02	+5.3619995E+02	+5.8150048E+02
59.0	4	+5.7567993E+02	+3.6157913E+01	+6.1500000E+02	+5.2971997E+02	+5.8171826E+02

AND 1062 PROPELLNT (AND UNLINED, G & P POLYMER) TENSILE SM, 1750 IN/MIN, 600 PSI

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
61.0	2	+5.8000000E+02	+1.4142135E+01	+5.9000000E+02	+5.7000000E+02	+5.8182714E+02
62.0	4	+6.2376733E+02	+8.5954070E+00	+6.3662988E+02	+6.1843994E+02	+5.8193603E+02
63.0	6	+6.2679467E+02	+4.1245974E+00	+6.3055981E+02	+6.2000000E+02	+5.8204492E+02
64.0	4	+5.8003222E+02	+7.6235632E+01	+6.7000000E+02	+5.0501977E+02	+5.8215380E+02
65.0	4	+6.3375000E+02	+1.1086778E+01	+6.4500000E+02	+6.2000000E+02	+5.8226269E+02
66.0	2	+6.6000000E+02	+7.0710678E+00	+6.6500000E+02	+6.5500000E+02	+5.8237158E+02
67.0	4	+5.5250000E+02	+1.8484227E+01	+5.8000000E+02	+5.4000000E+02	+5.8248046E+02
68.0	4	+6.4750000E+02	+1.1902380E+01	+6.6500000E+02	+6.4000000E+02	+5.8258935E+02
69.0	12	+6.2410205E+02	+1.9711843E+01	+6.5000000E+02	+5.8655981E+02	+5.8269824E+02
70.0	9	+5.9017871E+02	+4.1292629E+01	+6.4945996E+02	+5.4000000E+02	+5.8280712E+02
71.0	5	+5.7576977E+02	+2.3314515E+01	+5.9743994E+02	+5.4973999E+02	+5.8291601E+02
72.0	19	+5.9281854E+02	+3.7014451E+01	+6.6000000E+02	+5.3000000E+02	+5.8302490E+02
73.0	4	+5.8422973E+02	+6.0579438E+01	+6.3939990E+02	+5.1325000E+02	+5.8313378E+02
75.0	5	+5.7644775E+02	+4.0619604E+01	+6.0500000E+02	+5.0500000E+02	+5.8335156E+02
76.0	5	+5.7917773E+02	+1.0471733E+01	+5.8925976E+02	+5.6500000E+02	+5.8346044E+02
77.0	11	+5.8230908E+02	+4.9111729E+01	+6.5502978E+02	+5.2000000E+02	+5.8356933E+02
78.0	15	+5.6812036E+02	+3.7059045E+01	+6.1955981E+02	+5.1458984E+02	+5.8367822E+02
79.0	2	+6.1315991E+02	+1.2689833E+01	+6.2212988E+02	+6.0418994E+02	+5.8378710E+02
80.0	7	+5.5735693E+02	+3.2901174E+01	+5.8851977E+02	+4.9298999E+02	+5.8389599E+02
81.0	9	+5.6458154E+02	+2.2799618E+01	+5.9264990E+02	+5.3000000E+02	+5.8400488E+02
82.0	3	+6.0410302E+02	+1.3874565E+01	+6.1401977E+02	+5.9823999E+02	+5.8411376E+02
83.0	6	+5.9889990E+02	+5.3193715E+01	+6.7000000E+02	+5.4000000E+02	+5.8422265E+02
84.0	10	+5.8702246E+02	+3.8589017E+01	+6.6000000E+02	+5.5685986E+02	+5.8433154E+02
85.0	4	+5.9146997E+02	+3.7934570E+01	+6.2716992E+02	+5.5623999E+02	+5.8444042E+02
88.0	5	+5.2239160E+02	+5.7038777E+01	+5.8295996E+02	+4.5000000E+02	+5.8476708E+02
89.0	3	+5.6244653E+02	+2.0974739E+01	+5.7597998E+02	+5.3828979E+02	+5.8487597E+02
90.0	6	+5.7540207E+02	+3.7983353E+01	+6.2365991E+02	+5.2892993E+02	+5.8498486E+02
91.0	2	+6.1595483E+02	+6.6546962E+00	+6.2063989E+02	+6.1126977E+02	+5.8509375E+02
92.0	4	+5.9749218E+02	+5.7932340E+01	+6.3471997E+02	+5.1226977E+02	+5.8520263E+02
93.0	2	+6.3590991E+02	+1.3554698E+01	+6.4548999E+02	+6.2632983E+02	+5.8531152E+02
94.0	6	+5.4411303E+02	+8.2713909E+01	+6.0251977E+02	+4.2757983E+02	+5.8542041E+02

AND 3.06 PROPELLANT (AND UNLINED, G & F POLYMER) TENSILE SM, 1750 IN/MIN, 600 PSI

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
95.0	8	+5.8199365E+02	+3.5669332E+01	+6.2501977E+02	+5.2172998E+02	+5.8552929E+02
96.0	7	+5.6773413E+02	+6.3729722E+01	+6.5773999E+02	+5.1000000E+02	+5.8563818E+02
100.0	4	+5.9987231E+02	+3.0720457E+01	+6.3566992E+02	+5.7064990E+02	+5.8607373E+02
101.0	2	+5.5044995E+02	+5.6082537E+00	+5.5440991E+02	+5.4648999E+02	+5.8618261E+02
102.0	8	+5.6732958E+02	+3.4280548E+01	+5.9489990E+02	+5.0965991E+02	+5.8629150E+02
105.0	4	+5.8430737E+02	+4.8015883E+01	+6.3300976E+02	+5.3950000E+02	+5.8661816E+02
106.0	4	+6.0073974E+02	+1.8234063E+01	+6.2311987E+02	+5.8406982E+02	+5.8672705E+02
107.0	4	+6.1819726E+02	+1.9964522E+01	+6.4285986E+02	+5.9841992E+02	+5.8683593E+02
108.0	4	+5.0765478E+02	+2.2122601E+01	+5.2906982E+02	+4.8517993E+02	+5.8694482E+02
109.0	5	+5.3953784E+02	+4.4396854E+01	+5.9132983E+02	+4.8546997E+02	+5.8705371E+02
110.0	10	+5.8100488E+02	+1.7801348E+01	+6.2064990E+02	+5.5721997E+02	+5.8716259E+02
111.0	4	+5.8491235E+02	+1.7050462E+01	+5.9637988E+02	+5.6028979E+02	+5.8727148E+02
112.0	6	+6.0272485E+02	+3.7483893E+01	+6.5906982E+02	+5.5789990E+02	+5.8738037E+02
113.0	7	+6.0280517E+02	+2.9882691E+01	+6.5032983E+02	+5.6326977E+02	+5.8748925E+02
114.0	2	+6.1582983E+02	+8.3474817E+00	+6.2172998E+02	+6.0992993E+02	+5.8759814E+02
115.0	4	+5.9334472E+02	+3.2198719E+01	+6.3469995E+02	+5.6719995E+02	+5.8770703E+02
116.0	4	+6.1515966E+02	+2.4477407E+01	+6.3955981E+02	+5.9069995E+02	+5.8781591E+02
117.0	4	+6.2582714E+02	+1.0795128E+01	+6.4103979E+02	+6.1681982E+02	+5.8792480E+02
118.0	14	+5.7765380E+02	+5.9097506E+01	+6.4367993E+02	+4.7754980E+02	+5.8803369E+02
119.0	5	+5.4448168E+02	+5.1186877E+01	+5.9761987E+02	+4.7418994E+02	+5.8814257E+02
120.0	6	+5.8390649E+02	+1.9898072E+01	+6.1150000E+02	+5.5250000E+02	+5.8825146E+02
121.0	2	+5.7306982E+02	+2.4156744E+01	+5.9014990E+02	+5.5598999E+02	+5.8836035E+02
122.0	4	+5.7851489E+02	+5.2623271E+00	+5.8533984E+02	+5.7267993E+02	+5.8846923E+02
123.0	7	+6.3833813E+02	+1.8205622E+01	+6.6842993E+02	+6.0647998E+02	+5.8857812E+02
124.0	4	+6.5104980E+02	+1.7524167E+01	+6.7009985E+02	+6.3169995E+02	+5.8868701E+02
127.0	3	+6.1718139E+02	+2.1838212E+01	+6.5418994E+02	+5.9131982E+02	+5.8901367E+02
129.0	6	+6.2311303E+02	+4.7819792E+00	+6.2988999E+02	+6.1679980E+02	+5.8923168E+02
132.0	4	+5.2535986E+02	+1.2982311E+00	+5.2700976E+02	+5.2393994E+02	+5.8955834E+02
133.0	2	+6.0781982E+02	+5.6046416E+01	+6.4744995E+02	+5.6818994E+02	+5.8966723E+02
134.0	4	+5.5137988E+02	+4.5319716E+01	+5.9523999E+02	+5.0700000E+02	+5.8977612E+02
135.0	4	+6.1776677E+02	+1.8409388E+01	+6.3975976E+02	+5.9706982E+02	+5.8988500E+02

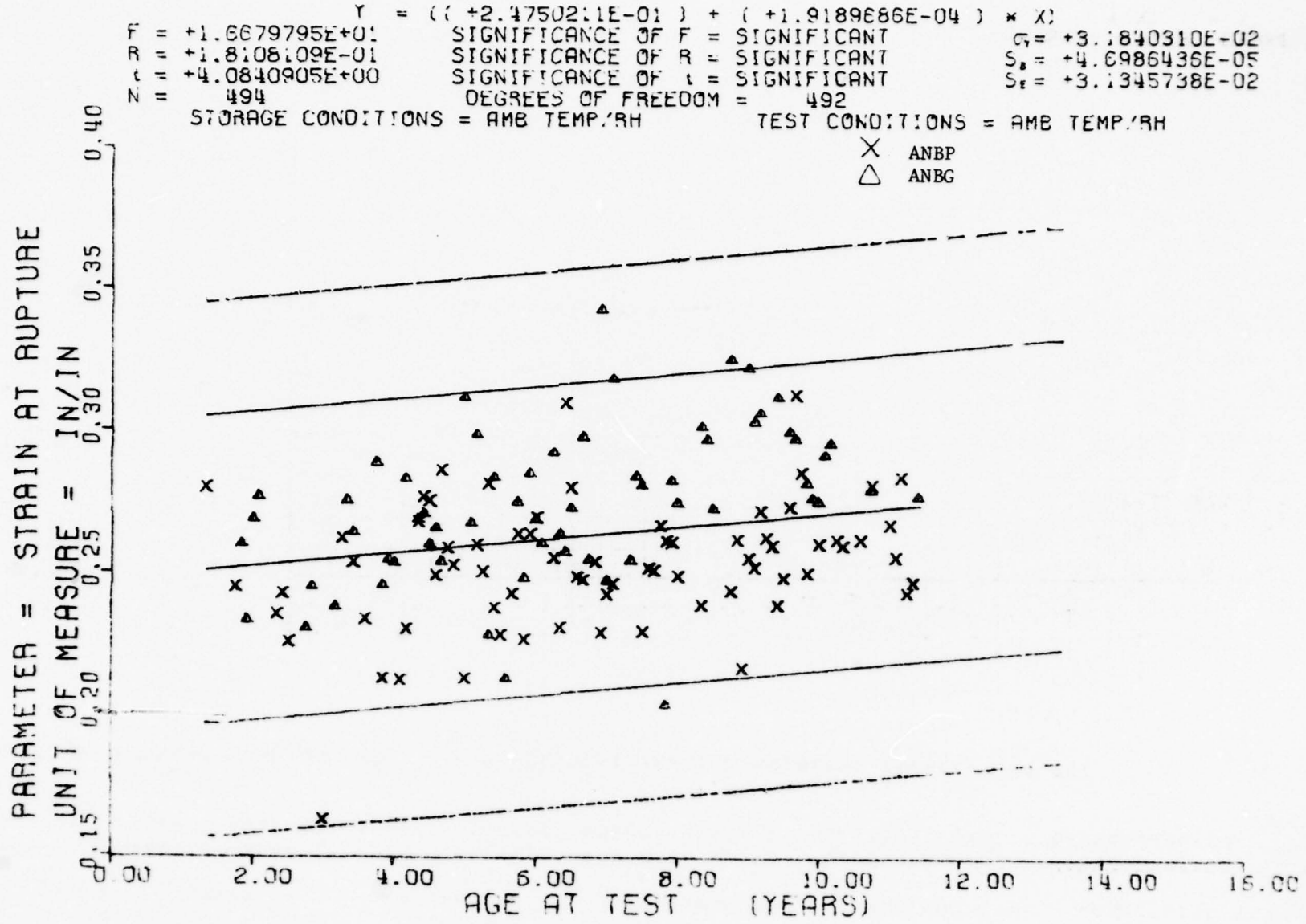
ANB 3160 PROPELLNT (ANB UNLINED, G & P POLYMER) TENSILE SM, 175° IN/MIN, 600 PSI

****** LINEAR REGRESSION ANALYSIS ******

***** ANALYSIS OF TIME SERIES *****

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
136.0	2	+5.9254492E+02	+1.5308887E+00	+5.9359985E+02	+5.9148999E+02	+5.8999389E+02
137.0	2	+5.4059483E+02	+5.5382919E+00	+5.4484985E+02	+5.3705981E+02	+5.9010278E+02

ANB 3066 PROPELLNT (ANB UNLINED, G & P POLYMER) TENSILE SM, 1750 IN/MIN, 600 PSI



ANB 3066 PROPLLNT (ANB UNLINED, G & P POLYMER) TENSILE ER, 1750 IN/MIN, 600 PSI

Figure 5-26

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
16.0	8	+2.8012466E-01	+1.8746900E-02	+3.0199998E-01	+2.5399994E-01	+2.5057244E-01
21.0	2	+2.4524998E-01	+1.1665027E-02	+2.5349998E-01	+2.3699998E-01	+2.5153189E-01
22.0	2	+2.5994992E-01	+1.5909577E-02	+2.7119994E-01	+2.4869996E-01	+2.5172382E-01
23.0	2	+2.3339992E-01	+6.9320173E-03	+2.3829996E-01	+2.2849994E-01	+2.5191569E-01
24.0	2	+2.6884996E-01	+7.2809376E-03	+2.7399998E-01	+2.6369994E-01	+2.5210762E-01
25.0	2	+2.7684998E-01	+9.2608875E-03	+2.8339999E-01	+2.7029997E-01	+2.5229948E-01
28.0	6	+2.3558312E-01	+1.9907140E-02	+2.7399998E-01	+2.1599996E-01	+2.5287520E-01
29.0	2	+2.4304991E-01	+1.0958388E-02	+2.5079995E-01	+2.3529994E-01	+2.5306707E-01
30.0	4	+2.2594994E-01	+3.6582398E-02	+2.7769994E-01	+1.9289994E-01	+2.5325900E-01
33.0	2	+2.3049998E-01	+4.9489223E-03	+2.3399996E-01	+2.2699999E-01	+2.5383466E-01
34.0	6	+2.4499970E-01	+4.8741517E-02	+3.1199997E-01	+1.8099999E-01	+2.5402659E-01
36.0	2	+1.6299998E-01	+5.8189520E-05	+1.6299998E-01	+1.6299998E-01	+2.5441038E-01
38.0	1	+2.3799997E-01	+0.0000000E+11	+2.3799997E-01	+2.3799997E-01	+2.5479418E-01
39.0	4	+2.6224994E-01	+1.9137969E-02	+2.7699995E-01	+2.3499995E-01	+2.5498604E-01
40.0	2	+2.7534991E-01	+1.0394660E-02	+2.8269994E-01	+2.6799994E-01	+2.5517797E-01
41.0	6	+2.6056635E-01	+2.3529653E-02	+2.9299998E-01	+2.3889994E-01	+2.5536984E-01
43.0	2	+2.3384994E-01	+1.6333207E-02	+2.4539995E-01	+2.2229999E-01	+2.5575363E-01
45.0	7	+2.8859978E-01	+3.5599054E-02	+3.1309998E-01	+2.2059994E-01	+2.5613743E-01
46.0	7	+2.3619961E-01	+2.2046790E-02	+2.6299995E-01	+1.9899994E-01	+2.5632935E-01
47.0	2	+2.5459992E-01	+9.7579956E-03	+2.6149994E-01	+2.4769997E-01	+2.5652122E-01
48.0	4	+2.5344991E-01	+3.8897681E-02	+2.8359997E-01	+1.9899994E-01	+2.5671315E-01
49.0	2	+2.1249991E-01	+1.3435378E-02	+2.2199994E-01	+2.0299994E-01	+2.5690501E-01
50.0	4	+2.5674986E-01	+3.1543142E-02	+2.8499996E-01	+2.1999996E-01	+2.5709694E-01
52.0	6	+2.6845985E-01	+7.9742285E-03	+2.7629995E-01	+2.5679999E-01	+2.5748074E-01
53.0	9	+2.7219963E-01	+4.4326211E-03	+2.8269994E-01	+2.6749998E-01	+2.5767260E-01
54.0	16	+2.6196205E-01	+3.9096937E-02	+3.2209998E-01	+1.5599995E-01	+2.5786453E-01
55.0	12	+2.6026630E-01	+2.9032564E-02	+3.0369997E-01	+2.0899999E-01	+2.5805640E-01
56.0	8	+2.6213729E-01	+2.1302853E-02	+2.9599994E-01	+2.3799997E-01	+2.5824832E-01
57.0	6	+2.5904971E-01	+3.5966465E-02	+3.0219995E-01	+2.0499998E-01	+2.5844019E-01
58.0	5	+2.5283980E-01	+2.5936847E-02	+2.7629995E-01	+2.2199994E-01	+2.5863212E-01
59.0	4	+2.6232481E-01	+6.6657112E-02	+3.2699996E-01	+1.7329996E-01	+2.5901591E-01

ANB 3066 PROPELNT (ANB UNLINED, G & P POLYMER) TENSILE ER, 1750 IN/MIN, 600 PSI

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
61.0	2	+2.6749998E-01	+2.4748653E-02	+2.8499996E-01	+2.5000000E-01	+2.5920778E-01
62.0	4	+2.7922487E-01	+2.5934422E-02	+3.0499994E-01	+2.4499994E-01	+2.5939971E-01
63.0	6	+2.5061637E-01	+3.9392186E-02	+2.8149998E-01	+1.7799997E-01	+2.5959157E-01
64.0	4	+2.5484991E-01	+3.3564819E-02	+2.8899997E-01	+2.1359997E-01	+2.5978350E-01
65.0	4	+2.6074981E-01	+2.8583225E-02	+2.9299998E-01	+2.2799998E-01	+2.5997537E-01
66.0	2	+2.2849994E-01	+1.7677759E-02	+2.4099999E-01	+2.1599996E-01	+2.6016730E-01
67.0	4	+2.1299993E-01	+5.7141230E-03	+2.1999996E-01	+2.0599997E-01	+2.6035916E-01
68.0	4	+2.4299991E-01	+9.1285137E-03	+2.5399994E-01	+2.3499995E-01	+2.6055109E-01
69.0	12	+2.6769953E-01	+2.8542110E-02	+2.9999995E-01	+1.9599997E-01	+2.6074296E-01
70.0	9	+2.4359965E-01	+2.4712625E-02	+2.8899997E-01	+2.1999996E-01	+2.6093488E-01
71.0	5	+2.7245974E-01	+2.6096026E-02	+2.8909999E-01	+2.2619998E-01	+2.6112675E-01
72.0	19	+2.6959949E-01	+2.3480165E-02	+3.1399995E-01	+2.2799998E-01	+2.6131868E-01
73.0	4	+2.6047492E-01	+4.4014781E-02	+2.8409999E-01	+1.9449996E-01	+2.6151055E-01
75.0	5	+2.7041965E-01	+5.5137490E-02	+2.9849994E-01	+1.7199999E-01	+2.6189434E-01
76.0	5	+2.5719982E-01	+1.5252691E-02	+2.6849997E-01	+2.3099994E-01	+2.6208627E-01
77.0	11	+2.6676332E-01	+2.9575382E-02	+3.1229996E-01	+2.1999996E-01	+2.6227813E-01
78.0	15	+2.7569299E-01	+3.6610439E-02	+3.1829994E-01	+2.0989996E-01	+2.6247006E-01
79.0	2	+2.4869996E-01	+1.1877365E-02	+2.5709998E-01	+2.4029999E-01	+2.6266193E-01
80.0	7	+2.6204258E-01	+3.9987087E-02	+2.9999995E-01	+1.8029999E-01	+2.6285386E-01
81.0	9	+2.5473308E-01	+1.4230329E-02	+2.7199995E-01	+2.2799998E-01	+2.6304572E-01
82.0	3	+2.5416666E-01	+1.3148155E-02	+2.6579999E-01	+2.3989999E-01	+2.6323765E-01
83.0	6	+2.6703310E-01	+7.1595245E-02	+3.4919995E-01	+1.7799997E-01	+2.6342952E-01
84.0	10	+2.4546957E-01	+4.7114889E-02	+3.2599997E-01	+1.7889994E-01	+2.6362144E-01
85.0	4	+2.8232479E-01	+4.1975973E-02	+3.2239997E-01	+2.3929995E-01	+2.6381331E-01
88.0	6	+2.5466644E-01	+2.4787896E-02	+2.7899998E-01	+2.1999996E-01	+2.6438903E-01
89.0	3	+2.8406661E-01	+1.3477935E-02	+2.9899996E-01	+2.7279996E-01	+2.6458090E-01
90.0	6	+2.6391649E-01	+2.9185919E-02	+3.0099999E-01	+2.2079998E-01	+2.6477283E-01
91.0	2	+2.5194996E-01	+2.8355452E-02	+2.7199995E-01	+2.3189997E-01	+2.6496469E-01
92.0	4	+2.5124979E-01	+1.8043945E-02	+2.7549999E-01	+2.3279994E-01	+2.6515656E-01
93.0	2	+2.6699995E-01	+2.1777583E-02	+2.8239995E-01	+2.5159996E-01	+2.6534849E-01
94.0	6	+2.4223309E-01	+3.3103621E-02	+2.8309994E-01	+2.0069998E-01	+2.6554036E-01

ANB 3066 PROPELLNT (ANB UNLINED, G & P POLYMER) TENSILE FR. 1750 IN/MIN, 600 PSI

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
95.0	8	+2.7179980E-01	+1.7847216E-02	+2.8899997E-01	+2.3449999E-01	+2.6573228E-01
96.0	7	+2.6375687E-01	+3.3538937E-02	+3.0799996E-01	+2.1999996E-01	+2.6552415E-01
100.0	4	+2.7024984E-01	+3.7320682E-02	+3.0819994E-01	+2.2969996E-01	+2.6669174E-01
101.0	2	+2.9699993E-01	+1.4140953E-02	+3.0699998E-01	+2.8699994E-01	+2.6688367E-01
102.0	8	+2.7279973E-01	+1.9693442E-02	+2.9669994E-01	+2.3919994E-01	+2.6707553E-01
105.0	4	+2.8464984E-01	+4.7073007E-02	+3.2849997E-01	+2.3999994E-01	+2.6765125E-01
106.0	4	+2.6199984E-01	+1.1523039E-02	+2.7969998E-01	+2.5529998E-01	+2.6784312E-01
107.0	4	+2.1684992E-01	+3.7655718E-02	+2.5699996E-01	+1.6999996E-01	+2.6803505E-01
108.0	4	+2.8984983E-01	+3.9866423E-02	+3.2449996E-01	+2.4319994E-01	+2.6822692E-01
109.0	5	+2.7275979E-01	+2.8342199E-02	+3.0989998E-01	+2.5059998E-01	+2.6841884E-01
110.0	10	+2.7912956E-01	+2.4139718E-02	+3.1689995E-01	+2.3899996E-01	+2.6861071E-01
111.0	4	+2.6274991E-01	+1.1956053E-02	+2.7029997E-01	+2.4489998E-01	+2.6880264E-01
112.0	6	+2.5991642E-01	+4.4334370E-02	+3.0509996E-01	+1.8979996E-01	+2.6899451E-01
113.0	7	+2.5975686E-01	+4.4755599E-02	+3.1179994E-01	+1.9169998E-01	+2.6918643E-01
114.0	2	+2.4849992E-01	+2.0930696E-02	+2.6329994E-01	+2.3369997E-01	+2.6937830E-01
115.0	4	+2.8662490E-01	+1.9703045E-02	+3.0719995E-01	+2.5999999E-01	+2.6957023E-01
116.0	4	+3.0509996E-01	+1.1435656E-02	+3.1879997E-01	+2.9099994E-01	+2.6976209E-01
117.0	4	+2.8544974E-01	+1.6110410E-02	+3.0699998E-01	+2.7049994E-01	+2.6995402E-01
118.0	14	+2.7725684E-01	+2.3797989E-02	+3.1949996E-01	+2.4289995E-01	+2.7014589E-01
119.0	5	+2.7649974E-01	+2.1760764E-02	+3.0239999E-01	+2.5369995E-01	+2.7033782E-01
120.0	6	+2.7043306E-01	+1.3858390E-02	+2.8059995E-01	+2.4399995E-01	+2.7052968E-01
121.0	2	+2.9149937E-01	+1.2619944E-02	+2.9999995E-01	+2.8299999E-01	+2.7072161E-01
122.0	4	+2.9564976E-01	+3.4519689E-03	+2.9839998E-01	+2.9089999E-01	+2.7091348E-01
123.0	7	+2.6171998E-01	+2.0527693E-02	+2.8599995E-01	+2.2499996E-01	+2.7110540E-01
124.0	4	+2.[illegible]4988E-01	+1.0244803E-02	+2.6899995E-01	+2.4899995E-01	+2.7129727E-01
127.0	6	+2.[illegible]301E-01	+2.8641360E-02	+2.8199994E-01	+2.1499997E-01	+2.7187299E-01
129.0	6	+2.[illegible]621E-01	+9.3559922E-03	+2.8729999E-01	+2.6349997E-01	+2.7225679E-01
132.0	4	+2.[illegible]985E-01	+7.2356711E-03	+2.7649998E-01	+2.6009994E-01	+2.7283245E-01
133.0	2	+2.5579994E-01	+4.9214928E-02	+2.9059994E-01	+2.2099995E-01	+2.7302438E-01
134.0	4	+2.8794995E-01	+4.2482337E-03	+2.8909999E-01	+2.7919995E-01	+2.7321624E-01
135.0	4	+2.4329996E-01	+4.9766267E-02	+2.4979996E-01	+2.3889994E-01	+2.7340817E-01

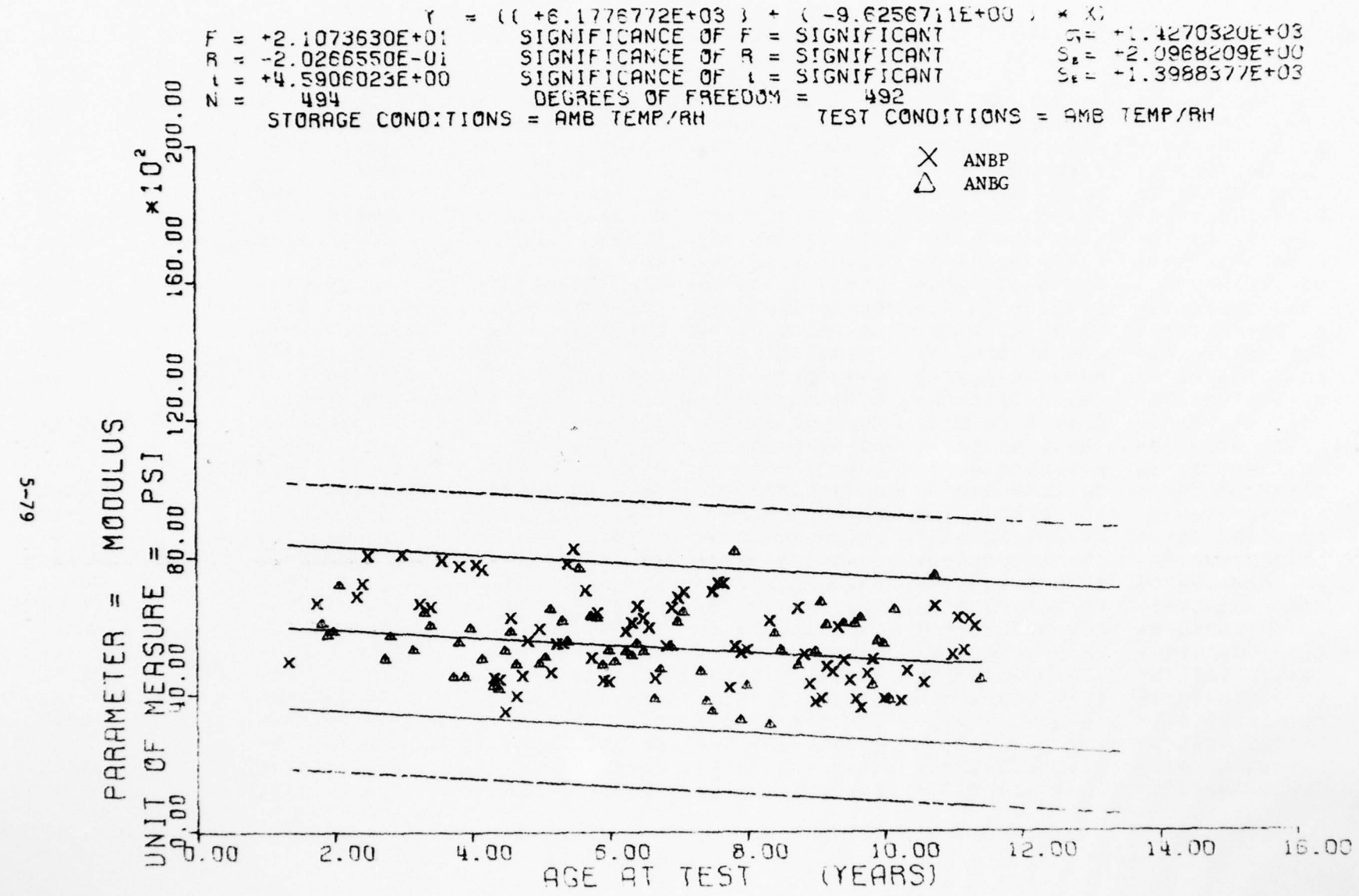
ANB 3066 PROPELLENT (ANB UNLINED, C & P POLYMER) TENSILE RR, 1750 IN/MIN, 600 PSI

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
136.0	2	+2.4694997E-01	+1.9303873E-02	+2.6059997E-01	+2.3329997E-01	+2.7360004E-01
137.0	2	+2.7699995E-01	+1.8382597E-02	+2.8999996E-01	+2.6399999E-01	+2.7379196E-01

ANB 3066 PROPELLNT (ANB UNLINED, C & P POLYMER) TENSILE ER, 1750 IN/MIN, 600 PSI



ANB 3066 PROPLLNT (ANB UNLINED, G & P POLYMER) TENSILE MOD, 1750 IN/MIN 600 PSI

Figure 5-27

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
16.0	8	+4.9901250E+03	+1.3282989E+03	+7.5000000E+03	+3.1470000E+03	+6.0236640E+03
21.0	2	+6.7000000E+03	+2.8284271E+02	+6.9000000E+03	+6.5000000E+03	+5.9755351E+03
22.0	2	+6.1000000E+03	+2.8284271E+02	+6.3000000E+03	+5.9000000E+03	+5.9669101E+03
23.0	2	+5.7500000E+03	+2.1213203E+02	+5.9000000E+03	+5.6000000E+03	+5.9562851E+03
24.0	2	+5.9500000E+03	+4.9497474E+02	+6.2000000E+03	+5.5000000E+03	+5.9466601E+03
25.0	2	+7.2000000E+03	+8.4852813E+02	+7.8000000E+03	+6.6000000E+03	+5.9370351E+03
28.0	6	+6.8833330E+03	+7.8078490E+02	+7.6000000E+03	+5.7000000E+03	+5.9081562E+03
29.0	2	+7.2500000E+03	+7.7781745E+02	+7.8000000E+03	+6.7000000E+03	+5.8985312E+03
30.0	4	+8.0750000E+03	+1.1176612E+03	+9.2000000E+03	+6.8000000E+03	+5.8889062E+03
33.0	2	+5.0500000E+03	+3.5355339E+02	+5.3000000E+03	+4.8000000E+03	+5.8600273E+03
34.0	6	+5.7166640E+03	+6.8239773E+02	+6.6000000E+03	+5.0000000E+03	+5.8504023E+03
36.0	2	+8.1000000E+03	+2.8284271E+02	+8.3000000E+03	+7.9000000E+03	+5.8311523E+03
38.0	1	+5.3000000E+03	+0.0000000E+11	+5.3000000E+03	+5.3000000E+03	+5.8118984E+03
39.0	4	+6.6750000E+03	+1.5261607E+03	+8.4000000E+03	+5.2000000E+03	+5.8022734E+03
40.0	2	+6.4100000E+03	+8.6267027E+02	+7.0200000E+03	+5.8000000E+03	+5.7926484E+03
41.0	6	+6.2076640E+03	+8.2744901E+02	+7.1000000E+03	+4.9000000E+03	+5.7830234E+03
43.0	2	+7.9195000E+03	+4.3075515E+01	+7.9500000E+03	+7.8890000E+03	+5.7637695E+03
45.0	7	+4.5314257E+03	+1.6618149E+03	+7.1000000E+03	+3.4360000E+03	+5.7445195E+03
46.0	7	+6.1602851E+03	+1.7611238E+03	+8.9000000E+03	+3.8780000E+03	+5.7348945E+03
47.0	2	+4.5210000E+03	+2.4039550E+02	+4.6910000E+03	+4.3510000E+03	+5.7252695E+03
48.0	4	+5.9500000E+03	+5.4467115E+02	+6.7000000E+03	+5.5000000E+03	+5.7156445E+03
49.0	2	+7.8000000E+03	+1.4142135E+02	+7.9000000E+03	+7.7000000E+03	+5.7060156E+03
52.0	4	+6.3500000E+03	+1.5545631E+03	+8.0000000E+03	+4.7000000E+03	+5.6963906E+03
53.0	5	+4.3470000E+03	+1.7056896E+02	+4.5790000E+03	+4.1120000E+03	+5.6771406E+03
54.0	9	+4.2291093E+03	+2.3252658E+02	+4.5240000E+03	+3.7970000E+03	+5.6675156E+03
64.0	15	+5.0713125E+03	+1.9062836E+03	+8.3000000E+03	+2.6400000E+03	+5.6578906E+03
65.0	12	+5.9765000E+03	+1.8556542E+03	+8.6000000E+03	+3.1590000E+03	+5.6482617E+03
66.0	8	+4.6466250E+03	+1.1056623E+03	+6.6000000E+03	+3.6080000E+03	+5.6386367E+03
67.0	6	+4.5623320E+03	+1.3823006E+03	+6.3000000E+03	+3.3380000E+03	+5.6290117E+03
68.0	5	+5.5923984E+03	+1.9349542E+03	+7.9000000E+03	+3.9640000E+03	+5.6193867E+03
69.0	4	+5.4225000E+03	+9.2269008E+02	+6.8000000E+03	+4.9000000E+03	+5.6097617E+03

ANB 3066 PROPELLNT (ANB UNLINED, C & P POLYMER) TENSILE MOD, 1750 IN/MIN 600 PSI

****** LINEAR REGRESSION ANALYSIS ******

***** ANALYSIS OF TIME SERIES *****

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
61.0	2	+5.1000000E+03	+1.4142135E+02	+5.2000000E+03	+5.0000000E+03	+5.5905078E+03
62.0	4	+5.5790000E+03	+1.0672700E+03	+6.6000000E+03	+4.6120000E+03	+5.5808828E+03
63.0	6	+5.4961640E+03	+1.6465099E+03	+7.9000000E+03	+4.2710000E+03	+5.5712578E+03
64.0	4	+5.8250000E+03	+4.9244289E+02	+6.4000000E+03	+5.2000000E+03	+5.5616328E+03
65.0	4	+6.6750000E+03	+1.3022416E+03	+7.9000000E+03	+5.5000000E+03	+5.5520078E+03
66.0	2	+8.2500000E+03	+7.7781745E+02	+8.8000000E+03	+7.7000000E+03	+5.5423828E+03
67.0	4	+7.6750000E+03	+3.5939764E+02	+8.2000000E+03	+7.4000000E+03	+5.5327539E+03
68.0	4	+7.0500000E+03	+1.6258331E+03	+8.8000000E+03	+5.3000000E+03	+5.5231289E+03
69.0	12	+5.4818320E+03	+1.0450781E+03	+6.4120000E+03	+3.0550000E+03	+5.5135039E+03
70.0	9	+6.2791093E+03	+8.1100869E+02	+7.5000000E+03	+5.2000000E+03	+5.5038789E+03
71.0	5	+4.5967968E+03	+4.3322880E+02	+4.9970000E+03	+4.0220000E+03	+5.4942539E+03
72.0	19	+4.7586289E+03	+1.2444507E+03	+7.7000000E+03	+3.3100000E+03	+5.4846250E+03
73.0	4	+4.9560000E+03	+1.4768669E+03	+6.9500000E+03	+3.7950000E+03	+5.4750000E+03
75.0	5	+5.6120000E+03	+7.7613143E+02	+6.7000000E+03	+4.7520000E+03	+5.4557500E+03
76.0	5	+5.3317968E+03	+5.5865727E+02	+6.1000000E+03	+4.5680000E+03	+5.4461250E+03
77.0	11	+5.6876328E+03	+1.0480304E+03	+7.6000000E+03	+4.3260000E+03	+5.4365000E+03
78.0	15	+5.6325312E+03	+1.4361853E+03	+8.2300000E+03	+3.6510000E+03	+5.4268710E+03
79.0	2	+5.9485000E+03	+3.8536151E+02	+6.2210000E+03	+5.6760000E+03	+5.4172460E+03
80.0	7	+4.2967109E+03	+4.6154169E+02	+5.0790000E+03	+3.6550000E+03	+5.4076210E+03
81.0	9	+4.7378867E+03	+1.9012890E+03	+7.7000000E+03	+2.6350000E+03	+5.3979960E+03
82.0	3	+5.4230000E+03	+3.0919007E+02	+5.7800000E+03	+5.2410000E+03	+5.3883710E+03
83.0	6	+6.1388320E+03	+7.3015283E+02	+7.0000000E+03	+5.1560000E+03	+5.3787460E+03
84.0	10	+6.3960976E+03	+1.0355653E+03	+7.7660000E+03	+4.3800000E+03	+5.3691171E+03
85.0	4	+6.7022500E+03	+4.1769037E+02	+7.3000000E+03	+6.4130000E+03	+5.3594921E+03
88.0	5	+4.6621640E+03	+1.1449321E+03	+6.7000000E+03	+3.6620000E+03	+5.3306171E+03
90.0	3	+3.7913332E+03	+5.9438651E+02	+4.1790000E+03	+3.1070000E+03	+5.3209921E+03
91.0	6	+4.6636640E+03	+1.9500309E+03	+7.2000000E+03	+2.3030000E+03	+5.3113632E+03
91.0	2	+7.2500000E+03	+3.5355339E+02	+7.5000000E+03	+7.0000000E+03	+5.3017382E+03
92.0	4	+7.2300000E+03	+7.9002109E+02	+7.9400000E+03	+6.1000000E+03	+5.2921132E+03
93.0	2	+4.1915000E+03	+1.1523671E+02	+4.2730000E+03	+4.1100000E+03	+5.2824882E+03
94.0	5	+6.3263320E+03	+1.4473335E+03	+8.2000000E+03	+5.0640000E+03	+5.2728632E+03

ANB 3180 PROPELLNT (ANS UNLINED, G & P POLYMER) TENSILE MOD, 1750 IN/MIN 600 PSI

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
95.0	8	+4.2298750E+03	+1.2938180E+03	+6.2340000E+03	+2.5400000E+03	+5.2632382E+03
96.0	7	+4.7021406E+03	+1.4885630E+03	+6.4000000E+03	+2.5330000E+03	+5.2536093E+03
100.0	4	+4.6285000E+03	+1.8444308E+03	+6.8460000E+03	+2.9930000E+03	+5.2151093E+03
101.0	2	+5.7635000E+03	+9.6868467E+01	+5.8320000E+03	+5.6950000E+03	+5.2054843E+03
102.0	8	+5.2867500E+03	+1.5240931E+03	+7.5100000E+03	+3.6750000E+03	+5.1958554E+03
105.0	4	+5.6645000E+03	+1.1271484E+03	+6.6890000E+03	+4.1540000E+03	+5.1669804E+03
106.0	4	+5.1477500E+03	+6.9685190E+02	+5.7930000E+03	+4.4790000E+03	+5.1573554E+03
107.0	4	+4.2877500E+03	+6.4361887E+02	+5.1600000E+03	+3.6460000E+03	+5.1477265E+03
108.0	4	+4.4977500E+03	+8.6503713E+02	+5.3050000E+03	+3.7050000E+03	+5.1381015E+03
109.0	5	+4.9845976E+03	+1.5790198E+03	+7.1120000E+03	+3.6960000E+03	+5.1284765E+03
110.0	10	+5.0425976E+03	+8.0157930E+02	+6.1670000E+03	+3.8660000E+03	+5.1188515E+03
111.0	4	+4.6387500E+03	+3.5448824E+02	+5.0020000E+03	+4.1720000E+03	+5.1092265E+03
112.0	6	+5.9546640E+03	+8.8008060E+02	+6.7980000E+03	+4.3490000E+03	+5.0996015E+03
113.0	7	+5.2957109E+03	+7.8088490E+02	+6.2260000E+03	+3.8530000E+03	+5.0899726E+03
114.0	2	+4.4050000E+03	+4.9496464E+02	+4.7550000E+03	+4.0550000E+03	+5.0803476E+03
115.0	4	+4.9490000E+03	+1.5350027E+03	+6.8660000E+03	+3.1860000E+03	+5.0707226E+03
116.0	4	+4.9052500E+03	+1.5303622E+03	+6.2490000E+03	+3.3610000E+03	+5.0610976E+03
117.0	4	+4.5937500E+03	+2.8285435E+02	+4.8140000E+03	+4.2000000E+03	+5.0514726E+03
118.0	14	+4.3572109E+03	+1.1102832E+03	+6.8650000E+03	+3.1950000E+03	+5.0418476E+03
119.0	5	+5.5251992E+03	+1.7565495E+03	+7.0900000E+03	+3.4110000E+03	+5.0322187E+03
120.0	6	+4.9156640E+03	+1.6361202E+03	+7.1860000E+03	+3.2990000E+03	+5.0225937E+03
121.0	2	+3.8110000E+03	+1.6118932E+02	+3.9250000E+03	+3.6970000E+03	+5.0129687E+03
122.0	4	+6.4490000E+03	+2.6912946E+02	+6.6070000E+03	+6.0470000E+03	+5.0033437E+03
123.0	7	+3.7835712E+03	+6.2518460E+02	+4.3430000E+03	+2.6460000E+03	+4.9937187E+03
124.0	4	+4.6650000E+03	+6.6153659E+02	+5.4480000E+03	+3.8700000E+03	+4.9840937E+03
127.0	6	+4.3173320E+03	+5.3222050E+02	+4.7750000E+03	+3.4820000E+03	+4.9552148E+03
129.0	6	+6.8530000E+03	+7.9093792E+02	+7.6680000E+03	+5.6430000E+03	+4.9359648E+03
132.0	4	+5.1350000E+03	+2.5272646E+02	+5.3390000E+03	+4.7730000E+03	+4.9070859E+03
133.0	2	+6.2025000E+03	+1.1292490E+03	+7.0010000E+03	+5.4040000E+03	+4.8974609E+03
134.0	4	+5.2515000E+03	+3.1513753E+02	+5.5300000E+03	+4.8560000E+03	+4.8878359E+03
135.0	4	+6.1555000E+03	+4.4802343E+02	+6.5920000E+03	+5.7190000E+03	+4.8782109E+03

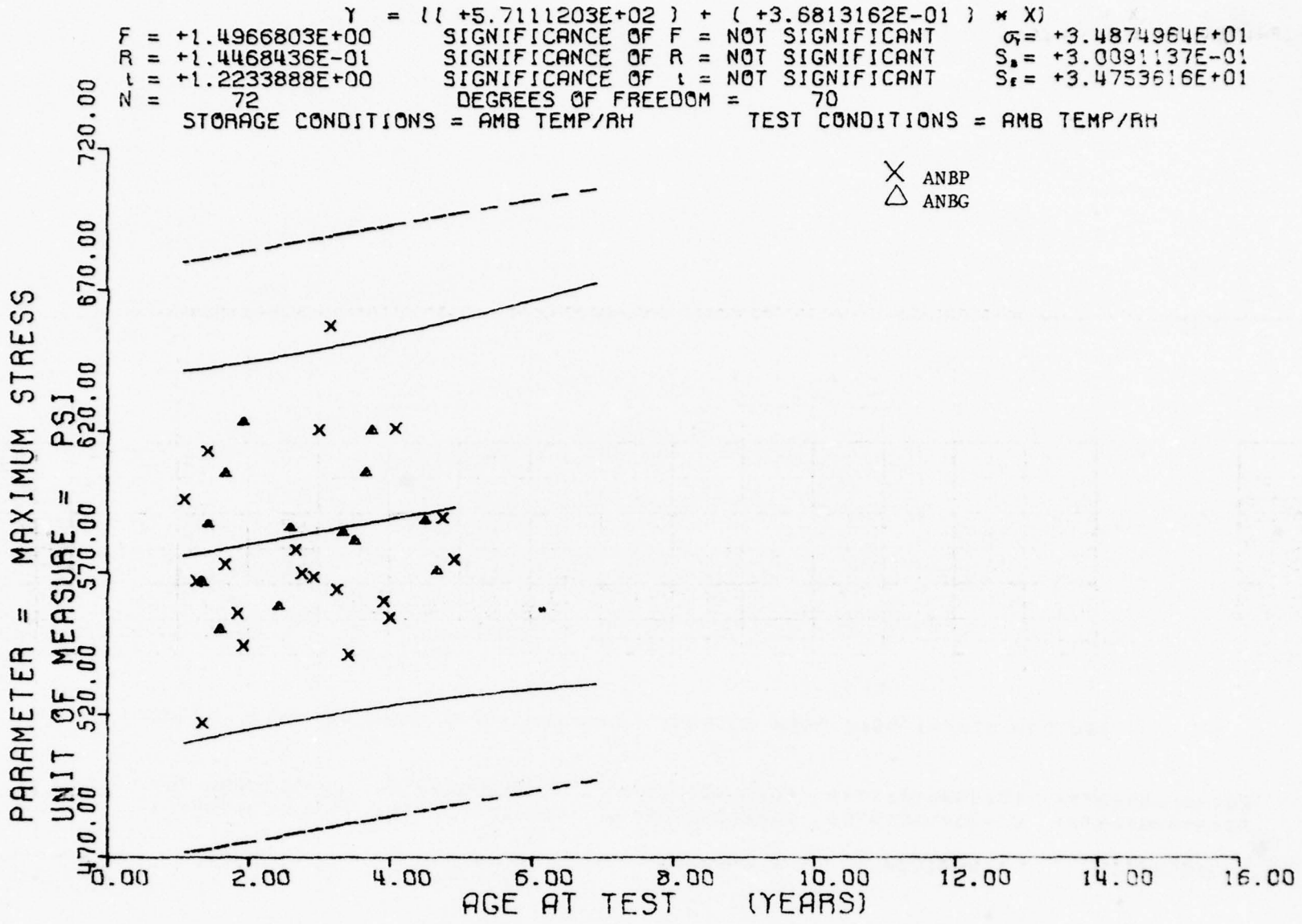
ANB 3066 PROPELLNT (ANB UNLINED, G & P POLYMER) TENSILE MOD. 1750 IN/MIN 600 PSI

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
136.0	2	+5.9595000E+03	+4.6173531E+02	+6.2860000E+03	+5.6330000E+03	+4.8665859E+03
137.0	2	+4.3885000E+03	+2.4484689E+01	+4.4060000E+03	+4.3710000E+03	+4.8589570E+03

ANB 3066 PROPLLNT (ANB UNLINED, G & P POLYMER) TENSILE MOD, 1750 IN/MIN 600 PSI



ANB 3066 PROPLLNT (ANB LINED, G & P POLYMER) TENSILE SM, 1750 IN/MIN, 600 PSI

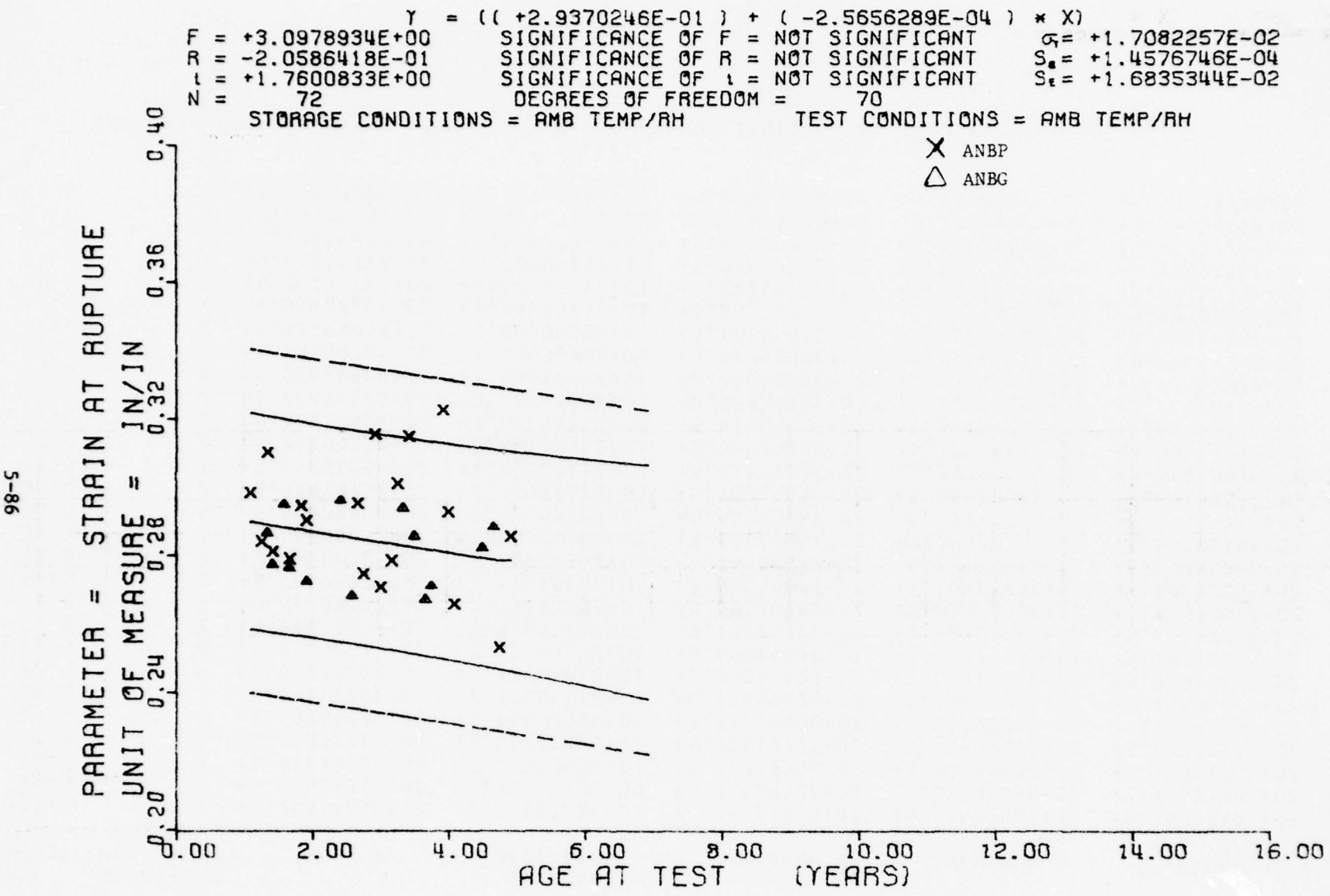
Figure 5-28

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+5.9631323E+02	+1.2012212E+01	+6.0511987E+02	+5.8262988E+02	+5.7589770E+02
15.0	2	+5.6743481E+02	+6.7034040E+00	+5.7216992E+02	+5.6269995E+02	+5.7663378E+02
16.0	4	+5.4217480E+02	+3.6145055E+01	+5.7873999E+02	+4.9300000E+02	+5.7700195E+02
17.0	6	+6.0485131E+02	+2.1414104E+01	+6.3251977E+02	+5.6883984E+02	+5.7737011E+02
19.0	4	+5.5024487E+02	+2.0439493E+01	+5.7764990E+02	+5.3089990E+02	+5.7810644E+02
20.0	4	+5.8931225E+02	+2.7280547E+01	+6.2956982E+02	+5.6921997E+02	+5.7847460E+02
22.0	4	+5.5512231E+02	+3.7370281E+01	+5.9302978E+02	+5.0891992E+02	+5.7921069E+02
23.0	4	+5.8406225E+02	+5.1151913E+01	+6.4091992E+02	+5.2203979E+02	+5.7957885E+02
29.0	2	+5.5824487E+02	+1.5965147E+01	+5.6952978E+02	+5.4695996E+02	+5.8178784E+02
31.0	2	+5.8502978E+02	+2.7155030E+01	+6.0522998E+02	+5.6682983E+02	+5.8252392E+02
32.0	2	+5.7849487E+02	+1.1417693E+01	+5.8655981E+02	+5.7042993E+02	+5.8289208E+02
33.0	2	+5.7015991E+02	+1.3087656E+01	+5.7940991E+02	+5.6090991E+02	+5.8326025E+02
35.0	1	+5.6868994E+02	+0.0000000E+67	+5.6868994E+02	+5.6868994E+02	+5.8399658E+02
36.0	4	+6.2093725E+02	+4.0345978E+01	+6.6350976E+02	+5.7050976E+02	+5.8436474E+02
38.0	2	+6.5747973E+02	+2.9492102E+01	+6.7832983E+02	+6.3662988E+02	+5.8510083E+02
39.0	2	+5.6423486E+02	+9.8030921E+00	+5.7115991E+02	+5.5730981E+02	+5.8546899E+02
40.0	2	+5.8419482E+02	+1.6422232E+01	+5.9579980E+02	+5.7258984E+02	+5.8583715E+02
41.0	2	+5.4117480E+02	+9.6415661E+00	+5.4798999E+02	+5.3435986E+02	+5.8620532E+02
42.0	2	+5.8129467E+02	+2.0566026E+01	+5.9582983E+02	+5.6675976E+02	+5.8657348E+02
44.0	4	+6.0552490E+02	+1.4357002E+01	+6.2364990E+02	+5.8869995E+02	+5.8730981E+02
45.0	2	+6.2038476E+02	+4.0843896E+00	+6.2325000E+02	+6.1751977E+02	+5.8767773E+02
47.0	1	+5.6019995E+02	+0.0000000E+03	+5.6019995E+02	+5.6019995E+02	+5.8841406E+02
48.0	2	+5.5442968E+02	+1.4649574E+01	+5.6477978E+02	+5.4407983E+02	+5.8878222E+02
49.0	2	+6.2115478E+02	+2.2723335E+01	+6.3721997E+02	+6.0508984E+02	+5.8915039E+02
54.0	1	+5.8851977E+02	+0.0000000E+15	+5.8851977E+02	+5.8851977E+02	+5.9099096E+02
56.0	2	+5.7074487E+02	+1.4752704E+01	+5.8116992E+02	+5.6031982E+02	+5.9172729E+02
57.0	2	+5.8947485E+02	+1.4148986E+01	+5.9947998E+02	+5.7946997E+02	+5.9209545E+02
59.0	2	+5.7487988E+02	+5.7970278E+01	+6.1586987E+02	+5.3386989E+02	+5.9283178E+02

ANB 3066 PROPLLNT (ANB LINED, G & P POLYMER) TENSILE SM, 1750 IN/MIN, 600 PSI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F = +3.0978934E+00 SIGNIFICANCE OF F = NOT SIGNIFICANT
R = -2.0586418E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT
t = +1.7600833E+00 SIGNIFICANCE OF t = NOT SIGNIFICANT
N = 72 DEGREES OF FREEDOM = 70
STORAGE CONDITIONS = AMB TEMP/RH
TEST CONDITIONS = AMB TEMP/RH
ANBP
ANBG
PARAMETER = STRAIN AT RUPTURE
UNIT OF MEASURE = IN/IN
0.20
0.24
0.28
0.32
0.36
0.40
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPLLNT (ANB LINED, G & P POLYMER) TENSILE ER, 1750 IN/MIN, 600 PSI

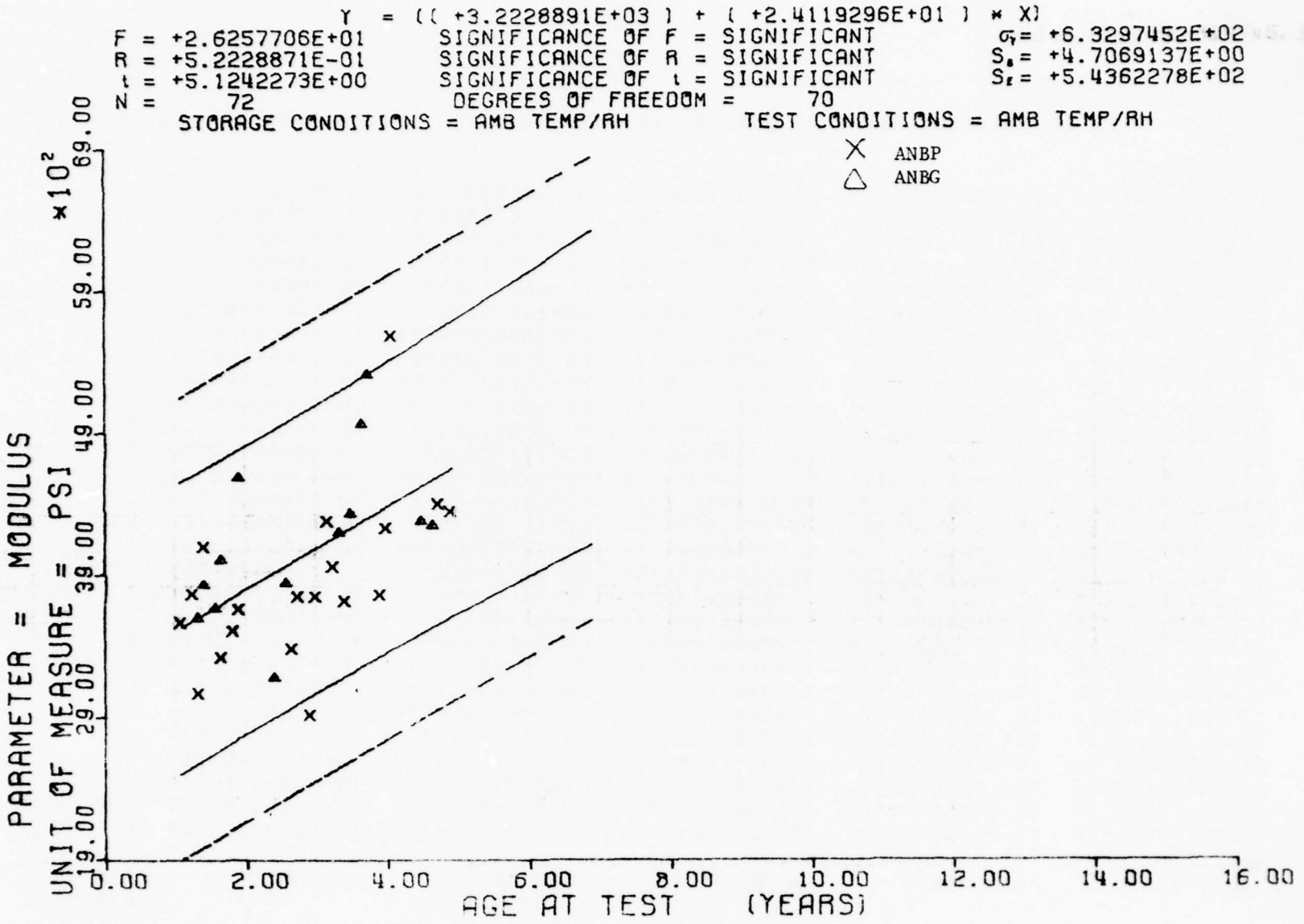
Figure 29

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+2.9876661E-01	+8.9579247E-03	+3.0909997E-01	+2.9319995E-01	+2.9036712E-01
15.0	2	+2.8439992E-01	+1.3859422E-02	+2.9419994E-01	+2.7459996E-01	+2.8985399E-01
16.0	4	+2.9367482E-01	+1.7968324E-02	+3.2409995E-01	+2.8249996E-01	+2.8959745E-01
17.0	6	+2.8026628E-01	+1.8379942E-02	+2.9809999E-01	+2.4719995E-01	+2.8934085E-01
19.0	4	+2.9517483E-01	+3.1754497E-03	+2.9789996E-01	+2.9129999E-01	+2.8882771E-01
20.0	4	+2.7309977E-01	+1.4522446E-02	+2.9269999E-01	+2.6069998E-01	+2.8857117E-01
22.0	4	+2.9487490E-01	+1.6746955E-02	+3.1599998E-01	+2.7519994E-01	+2.8805804E-01
23.0	4	+2.8157496E-01	+1.5116960E-02	+3.0289995E-01	+2.6719999E-01	+2.8780150E-01
29.0	2	+2.9534994E-01	+2.8974086E-03	+2.9839998E-01	+2.9429996E-01	+2.8626209E-01
31.0	2	+2.6834994E-01	+4.1718634E-03	+2.7129995E-01	+2.6539999E-01	+2.8574895E-01
32.0	2	+2.9564994E-01	+9.0493941E-04	+2.9629999E-01	+2.9499995E-01	+2.8549242E-01
33.0	2	+2.7499997E-01	+1.8354439E-03	+2.7629995E-01	+2.7369999E-01	+2.8523588E-01
35.0	1	+3.1599998E-01	+0.0000000E+67	+3.1599998E-01	+3.1599998E-01	+2.8472274E-01
36.0	4	+2.7124977E-01	+9.3708944E-03	+2.7959996E-01	+2.5799995E-01	+2.8446614E-01
38.0	2	+2.7889996E-01	+4.7997559E-03	+2.8229999E-01	+2.7549999E-01	+2.8395307E-01
39.0	2	+3.0139994E-01	+8.0607661E-03	+3.0709999E-01	+2.9569995E-01	+2.8369647E-01
40.0	2	+2.9414993E-01	+1.6193628E-02	+3.0559998E-01	+2.8269994E-01	+2.8343993E-01
41.0	2	+3.1514996E-01	+1.1808990E-02	+3.2349997E-01	+3.0679994E-01	+2.8318333E-01
42.0	2	+2.8589993E-01	+4.2447630E-03	+2.8889995E-01	+2.8289997E-01	+2.8292679E-01
44.0	4	+2.6737475E-01	+1.3101230E-02	+2.8259998E-01	+2.5619995E-01	+2.8241366E-01
45.0	2	+2.7134996E-01	+1.1807885E-02	+2.7969998E-01	+2.6299995E-01	+2.8215712E-01
47.0	1	+3.2299995E-01	+0.0000000E+03	+3.2299995E-01	+3.2299995E-01	+2.8164398E-01
48.0	2	+2.9304993E-01	+2.7632039E-03	+2.9499995E-01	+2.9109996E-01	+2.8138738E-01
49.0	2	+2.6614993E-01	+4.4537027E-03	+2.6929998E-01	+2.6299995E-01	+2.8113085E-01
54.0	1	+2.8249996E-01	+0.0000000E+15	+2.8249996E-01	+2.8249996E-01	+2.7984803E-01
56.0	2	+2.8864991E-01	+3.3231242E-03	+2.9099994E-01	+2.8629994E-01	+2.7933490E-01
57.0	2	+2.5349998E-01	+4.9492657E-03	+2.5699996E-01	+2.5000000E-01	+2.7907836E-01
59.0	2	+2.8589993E-01	+7.2105936E-03	+2.9099994E-01	+2.8079998E-01	+2.7856522E-01

ANB 3066 PROPLLNT (ANB LINED, G & P POLYMER) TENSILE ER, 1750 IN/MIN, 600 PSI



ANB 3066 PROPLLNT (ANB LINED, G & P POLYMER) TENSILE MOD, 1750 IN/MIN 600 PSI

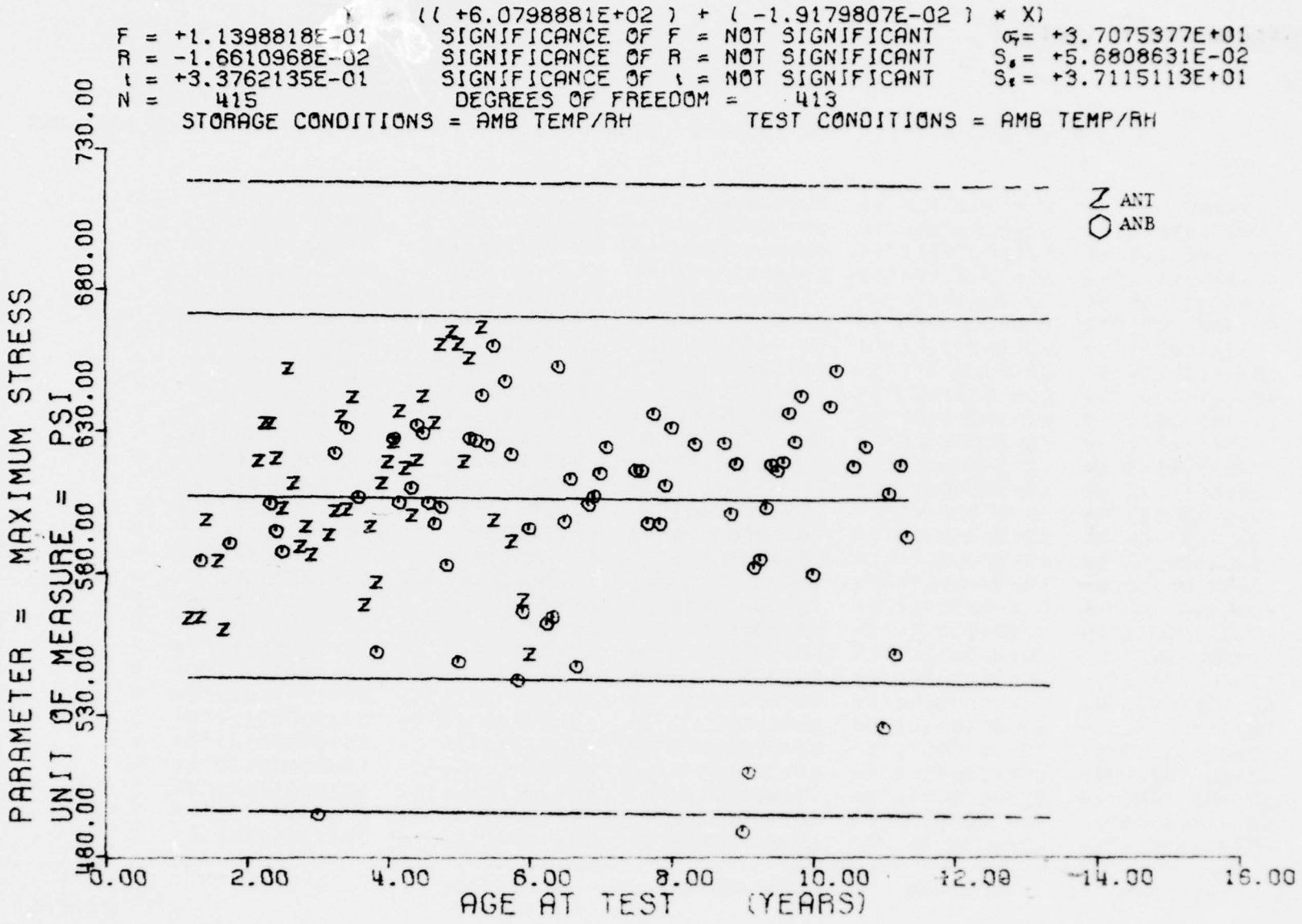
Figure 30

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+3.5793332E+03	+3.7753851E+02	+3.8290000E+03	+3.1450000E+03	+3.5364399E+03
15.0	2	+3.7815000E+03	+2.7646970E+02	+3.9770000E+03	+3.5860000E+03	+3.5846784E+03
16.0	4	+3.3472500E+03	+3.7349776E+02	+3.7980000E+03	+2.8960000E+03	+3.6087978E+03
17.0	6	+4.0250000E+03	+4.5941745E+02	+4.9430000E+03	+3.7330000E+03	+3.6329169E+03
19.0	4	+3.6770000E+03	+3.0727837E+02	+3.9280000E+03	+3.2300000E+03	+3.6811557E+03
20.0	4	+3.6770000E+03	+4.2918061E+02	+4.2190000E+03	+3.2910000E+03	+3.7052749E+03
22.0	4	+3.5207500E+03	+5.5236634E+02	+4.1630000E+03	+2.9420000E+03	+3.7535136E+03
23.0	4	+4.1352500E+03	+5.6956525E+02	+4.7310000E+03	+3.4680000E+03	+3.7776328E+03
29.0	2	+3.1885000E+03	+1.3783867E+02	+3.2860000E+03	+3.0910000E+03	+3.9223486E+03
31.0	2	+3.8525000E+03	+3.3586827E+02	+4.0900000E+03	+3.6150000E+03	+3.9705871E+03
32.0	2	+3.3920000E+03	+1.6685322E+02	+3.5100000E+03	+3.2740000E+03	+3.9947065E+03
33.0	2	+3.7610000E+03	+1.3575713E+02	+3.8570000E+03	+3.6650000E+03	+4.0188259E+03
35.0	1	+2.9250000E+03	+0.0000000E+67	+2.9250000E+03	+2.9250000E+03	+4.0670644E+03
36.0	4	+3.7592500E+03	+1.2743331E+02	+3.9280000E+03	+3.6260000E+03	+4.0911838E+03
38.0	2	+4.2930000E+03	+7.8630146E+02	+4.8490000E+03	+3.7370000E+03	+4.1394218E+03
39.0	2	+3.9695000E+03	+8.9774718E+01	+4.0330000E+03	+3.9060000E+03	+4.1635390E+03
40.0	2	+4.2070000E+03	+2.4605283E+02	+4.3810000E+03	+4.0330000E+03	+4.1876601E+03
41.0	2	+3.7310000E+03	+1.3009996E+02	+3.8230000E+03	+3.6390000E+03	+4.2117773E+03
42.0	2	+4.3415000E+03	+6.1730017E+02	+4.7780000E+03	+3.9050000E+03	+4.2358984E+03
44.0	4	+4.9737500E+03	+4.4959676E+02	+5.3560000E+03	+4.3720000E+03	+4.2841367E+03
45.0	2	+5.3250000E+03	+7.6302031E+01	+5.3790000E+03	+5.2710000E+03	+4.3082539E+03
47.0	1	+3.7730000E+03	+0.0000000E+03	+3.7730000E+03	+3.7730000E+03	+4.3564960E+03
48.0	2	+4.2435000E+03	+1.7038632E+02	+4.3640000E+03	+4.1230000E+03	+4.3806132E+03
49.0	2	+5.5970000E+03	+2.5596484E+02	+5.7780000E+03	+5.4160000E+03	+4.4047343E+03
54.0	1	+4.2340000E+03	+0.0000000E+15	+4.2840000E+03	+4.2840000E+03	+4.5253281E+03
56.0	2	+4.2555000E+03	+1.9019858E+02	+4.3900000E+03	+4.1210000E+03	+4.5735664E+03
57.0	2	+4.4105000E+03	+8.5530696E+01	+4.4710000E+03	+4.3500000E+03	+4.5976875E+03
59.0	2	+4.3570000E+03	+2.2061278E+02	+4.5130000E+03	+4.2010000E+03	+4.6459257E+03

ANB 3066 PROPLLNT (ANB LINED, G & P POLYMER) TENSILE MOD, 1750 IN/MIN 600 PSI



ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) TENSILE SM, 1750 IN/MIN, 600 PSI

Figure 5-31

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
14.0	2	+5.6455468E+02	+1.4203308E+01	+5.7458984E+02	+5.5451977E+02	+6.0772021E+02
16.0	11	+5.7930639E+02	+2.4094066E+01	+6.2000000E+02	+5.3979980E+02	+6.0768188E+02
17.0	5	+5.9898779E+02	+1.7164894E+01	+6.1816992E+02	+5.7316992E+02	+6.0766259E+02
19.0	2	+5.8450976E+02	+2.1727169E+01	+5.9986987E+02	+5.6914990E+02	+6.0762426E+02
20.0	2	+5.6353491E+02	+4.0124323E+00	+5.6335986E+02	+5.5770996E+02	+6.0760498E+02
21.0	2	+5.9086987E+02	+2.6774965E+01	+6.0979980E+02	+5.7193994E+02	+6.0758593E+02
26.0	1	+6.1984985E+02	+0.0000000E+11	+6.1984985E+02	+6.1984985E+02	+6.0748999E+02
27.0	2	+6.3314477E+02	+5.0326571E+00	+6.3668994E+02	+6.2959985E+02	+6.0747094E+02
28.0	7	+6.0888671E+02	+1.8040445E+01	+6.3310986E+02	+5.8370996E+02	+6.0745166E+02
29.0	4	+6.0794726E+02	+2.3887899E+01	+6.3307983E+02	+5.7578979E+02	+6.0743237E+02
30.0	7	+5.9440380E+02	+2.8554173E+01	+6.3619995E+02	+5.5525000E+02	+6.0741333E+02
31.0	2	+6.5223486E+02	+5.5078841E+01	+6.9117993E+02	+6.1328979E+02	+6.0739404E+02
32.0	1	+6.1185986E+02	+0.0000000E+35	+6.1185986E+02	+6.1185986E+02	+6.0737500E+02
33.0	2	+5.8946484E+02	+4.9202099E+00	+5.9291992E+02	+5.8600976E+02	+6.0735571E+02
34.0	1	+5.9669995E+02	+0.0000000E+43	+5.9669995E+02	+5.9669995E+02	+6.0733666E+02
35.0	3	+5.8666967E+02	+1.2110063E+01	+5.9937988E+02	+5.7528979E+02	+6.0731738E+02
36.0	2	+4.9500000E+02	+1.4142135E+01	+5.0500000E+02	+4.8500000E+02	+6.0729833E+02
38.0	5	+5.9382983E+02	+7.4940201E+00	+6.0347998E+02	+5.8751977E+02	+6.0725976E+02
39.0	9	+6.1127075E+02	+2.2329114E+01	+6.5000000E+02	+5.8061987E+02	+6.0724072E+02
40.0	2	+6.3520971E+02	+7.2531863E+00	+6.4031982E+02	+6.3009985E+02	+6.0722143E+02
41.0	9	+6.0889916E+02	+1.6540560E+01	+6.3590991E+02	+5.8755981E+02	+6.0720239E+02
42.0	3	+6.4206640E+02	+4.9276199E+00	+6.4632983E+02	+6.3665991E+02	+6.0718310E+02
43.0	2	+6.0702490E+02	+6.4302697E+00	+6.1155981E+02	+6.0248999E+02	+6.0716406E+02
44.0	6	+5.6909814E+02	+2.5414694E+01	+5.9151977E+02	+5.3657983E+02	+6.0714477E+02
45.0	4	+5.9578808E+02	+1.3376974E+01	+6.1312988E+02	+5.7908984E+02	+6.0712548E+02
46.0	6	+5.6877661E+02	+2.3319513E+01	+6.0170996E+02	+5.3000000E+02	+6.0710644E+02
47.0	11	+6.1200805E+02	+3.1016174E+01	+6.4367993E+02	+5.7220996E+02	+6.0708715E+02
48.0	10	+6.1045068E+02	+2.2561757E+01	+6.5388989E+02	+5.8829980E+02	+6.0706811E+02
49.0	8	+6.2668115E+02	+1.5651866E+01	+6.4500000E+02	+6.0970996E+02	+6.0704882E+02
50.0	11	+6.3135986E+02	+2.2890763E+01	+6.8129980E+02	+5.9000000E+02	+6.0702978E+02
51.0	3	+6.1704321E+02	+1.2247862E+01	+6.2445996E+02	+6.0289990E+02	+6.0701049E+02

ANB 3066 PROPELLNT (ANT & ANB UNLND, P POLYMER) TENSILE SM, 1750 IN/MIN, 600 PSI

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
52.0	4	+6.0532739E+02	+8.5770159E+00	+6.1541992E+02	+5.9442993E+02	+6.0699145E+02
53.0	14	+6.2172338E+02	+1.9691017E+01	+6.5133984E+02	+5.9517993E+02	+6.0697216E+02
54.0	9	+6.3960053E+02	+1.1492198E+01	+6.5484985E+02	+6.2233984E+02	+6.0695288E+02
55.0	4	+6.0473730E+02	+1.1424807E+01	+6.2000000E+02	+5.9308984E+02	+6.0693383E+02
56.0	8	+6.2401562E+02	+3.5203486E+01	+6.8021997E+02	+5.8663989E+02	+6.0691455E+02
57.0	12	+6.3192895E+02	+4.9775235E+01	+6.8677978E+02	+5.3694995E+02	+6.0689550E+02
58.0	5	+5.8289575E+02	+3.6655740E+01	+6.2000000E+02	+5.3619995E+02	+6.0687622E+02
59.0	2	+6.6507983E+02	+1.6367982E+00	+6.6621997E+02	+6.6393994E+02	+6.0685717E+02
60.0	4	+6.0470996E+02	+6.6441584E+01	+6.6470996E+02	+5.2971997E+02	+6.0683789E+02
61.0	2	+6.1912988E+02	+5.6735277E+00	+6.2312988E+02	+6.1512988E+02	+6.0681860E+02
62.0	4	+6.4166992E+02	+1.8081716E+01	+6.5866992E+02	+6.1843994E+02	+6.0679956E+02
63.0	6	+6.2579467E+02	+4.1245974E+00	+6.3055981E+02	+6.2000000E+02	+6.0678027E+02
64.0	6	+6.5964648E+02	+2.7771238E+01	+6.9659985E+02	+6.1500000E+02	+6.0676123E+02
65.0	2	+6.2500000E+02	+7.0710678E+00	+6.3000000E+02	+6.2000000E+02	+6.0674194E+02
66.0	4	+6.2939990E+02	+3.5710616E+01	+6.6500000E+02	+5.9489990E+02	+6.0672290E+02
68.0	4	+6.4750000E+02	+1.1902380E+01	+6.6500000E+02	+6.4000000E+02	+6.0668457E+02
69.0	12	+6.1153125E+02	+2.4478865E+01	+6.5000000E+02	+5.7997998E+02	+6.0666528E+02
70.0	2	+5.4250000E+02	+3.5355339E+00	+5.4500000E+02	+5.4000000E+02	+6.0664599E+02
71.0	7	+5.6899414E+02	+1.5643942E+01	+5.9736987E+02	+5.4973999E+02	+6.0662695E+02
72.0	13	+5.8909033E+02	+3.3397633E+01	+6.6000000E+02	+5.4469995E+02	+6.0660766E+02
75.0	3	+5.6241308E+02	+5.0057220E+01	+5.9689990E+02	+5.0500000E+02	+6.0655029E+02
76.0	1	+5.6500000E+02	+0.0000000E+95	+5.6500000E+02	+5.6500000E+02	+6.0653100E+02
77.0	2	+6.5276489E+02	+3.2388323E+00	+6.5502978E+02	+6.5050000E+02	+6.0651196E+02
78.0	6	+5.9831152E+02	+2.1838650E+01	+6.1955981E+02	+5.6017993E+02	+6.0649267E+02
79.0	3	+6.1315991E+02	+1.2689833E+01	+6.2212988E+02	+6.0418994E+02	+6.0647338E+02
80.0	5	+5.4708789E+02	+3.3870830E+01	+5.8122998E+02	+4.9298999E+02	+6.0645434E+02
82.0	3	+6.0410302E+02	+1.3874565E+01	+6.1401977E+02	+5.8823999E+02	+6.0641601E+02
83.0	4	+6.0700000E+02	+6.6503132E+01	+6.7000000E+02	+5.4000000E+02	+6.0639672E+02
84.0	4	+6.1498486E+02	+5.0761440E+01	+6.6000000E+02	+5.5685986E+02	+6.0637768E+02
85.0	2	+6.2420996E+02	+4.1951558E+00	+6.2716992E+02	+6.2125000E+02	+6.0635839E+02
90.0	2	+6.1603491E+02	+1.0789421E+01	+6.2365991E+02	+6.0840991E+02	+6.0626245E+02

ANB 3066 PROPELLANT (ANT 6 ANB UNLND, P POLYMER) TENSILE SM, 1750 IN/MIN, 600 PSI

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
91.0	2	+6.1595483E+02	+6.6546962E+00	+6.2063989E+02	+6.1126977E+02	+6.0624340E+02
92.0	4	+5.9749218E+02	+5.7932340E+01	+6.3471997E+02	+5.1226977E+02	+6.0622412E+02
93.0	2	+6.3590991E+02	+1.3554698E+01	+6.4548999E+02	+6.2632983E+02	+6.0620507E+02
94.0	4	+5.9723730E+02	+6.6109993E+00	+6.0251977E+02	+5.8779980E+02	+6.0618579E+02
95.0	4	+6.1089721E+02	+1.7073050E+01	+6.2501977E+02	+5.8860986E+02	+6.0616650E+02
96.0	3	+6.3111987E+02	+3.9381527E+01	+6.5773999E+02	+5.8587988E+02	+6.0614746E+02
100.0	2	+6.2630981E+02	+1.4655342E+01	+6.3566992E+02	+6.1494995E+02	+6.0607080E+02
105.0	2	+6.2546484E+02	+1.0686836E+01	+6.3300976E+02	+6.1791992E+02	+6.0597485E+02
106.0	4	+6.0073974E+02	+1.8234063E+01	+6.2311987E+02	+5.8406982E+02	+6.0595556E+02
107.0	4	+6.1819726E+02	+1.8964522E+01	+6.4285986E+02	+5.9841992E+02	+6.0593652E+02
108.0	2	+4.8874975E+02	+5.0671636E+00	+4.9231982E+02	+4.8517993E+02	+6.0591723E+02
109.0	3	+5.0982324E+02	+2.4066680E+01	+5.3358984E+02	+4.8546997E+02	+6.0589819E+02
110.0	8	+5.8195703E+02	+2.0018242E+01	+6.2064990E+02	+5.5721997E+02	+6.0587890E+02
111.0	4	+5.8491235E+02	+1.7050462E+01	+5.9637988E+02	+5.6028979E+02	+6.0585961E+02
112.0	6	+6.0272485E+02	+3.7483893E+01	+6.5906982E+02	+5.5789990E+02	+6.0584057E+02
113.0	5	+6.1791967E+02	+1.8385812E+01	+6.5032983E+02	+6.0630981E+02	+6.0582128E+02
114.0	2	+6.1582983E+02	+8.3474817E+00	+6.2172998E+02	+6.0992993E+02	+6.0580224E+02
115.0	2	+6.1888989E+02	+2.2362954E+01	+6.3469995E+02	+6.0307983E+02	+6.0578295E+02
116.0	2	+6.3506982E+02	+4.9731716E+00	+6.3955981E+02	+6.3257983E+02	+6.0576391E+02
117.0	4	+6.2582714E+02	+1.0795128E+01	+6.4103979E+02	+6.1681982E+02	+6.0574462E+02
118.0	2	+6.4195483E+02	+2.4584128E+00	+6.4367993E+02	+6.4022998E+02	+6.0572558E+02
120.0	2	+5.7945971E+02	+8.7694230E+00	+5.8564990E+02	+5.7326977E+02	+6.0568701E+02
123.0	7	+6.3833813E+02	+1.8205622E+01	+6.6842993E+02	+6.0647998E+02	+6.0562963E+02
124.0	4	+6.5104980E+02	+1.7524167E+01	+6.7009985E+02	+6.3169995E+02	+6.0561035E+02
127.0	6	+6.1718139E+02	+2.1838212E+01	+6.5418994E+02	+5.9131982E+02	+6.0555273E+02
129.0	4	+6.2410482E+02	+4.6788926E+00	+6.2998999E+02	+6.1848999E+02	+6.0551440E+02
132.0	4	+5.2535986E+02	+1.2982311E+00	+5.2700976E+02	+5.2393994E+02	+6.0545703E+02
133.0	2	+6.0781982E+02	+5.6046416E+01	+6.4744995E+02	+5.6818994E+02	+6.0543774E+02
134.0	4	+5.5137988E+02	+4.5319716E+01	+5.9523999E+02	+5.0700000E+02	+6.0541870E+02
135.0	4	+6.1776977E+02	+1.8409388E+01	+6.3975976E+02	+5.9706982E+02	+6.0539941E+02
136.0	2	+5.9254492E+02	+1.5308887E+00	+5.9359985E+02	+5.9148999E+02	+6.0538012E+02

AN8 3000 PROPELLANT (ANT. & ANB UNLND. P POLYMER) TENSILE SM. 1750 IN/MIN. 600 PSI

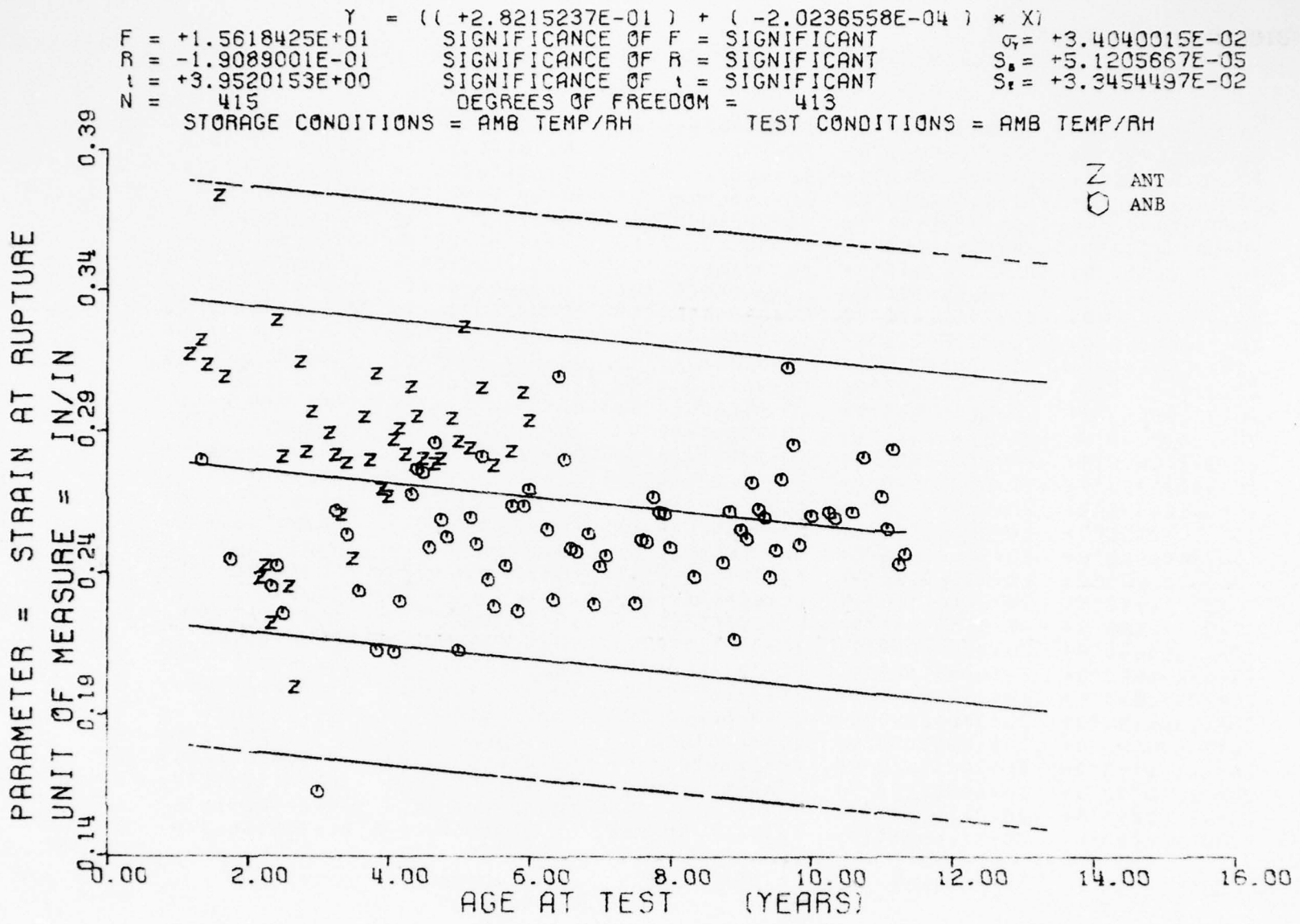

Y = ((+2.8215237E-01) + (-2.0236558E-04) * X)
F = +1.5618425E+01 SIGNIFICANCE OF F = SIGNIFICANT σ = +3.4040015E-02
R = -1.9089001E-01 SIGNIFICANCE OF R = SIGNIFICANT S_b = +5.1205667E-05
t = +3.9520153E+00 SIGNIFICANCE OF t = SIGNIFICANT S_r = +3.3454497E-02
N = 415 DEGREES OF FREEDOM = 413
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH
Z ANT
ANB
PARAMETER = STRAIN AT RUPTURE
UNIT OF MEASURE = IN/IN
0.14
0.19
0.24
0.29
0.34
0.39
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) TENSILE ER, 1750 IN/MIN, 600 PSI

Figure 5-32

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
14.0	2	+3.1749993E-01	+1.2020736E-02	+3.2599997E-01	+3.0899995E-01	+2.7931922E-01
16.0	11	+2.9172694E-01	+2.5926372E-02	+3.3499997E-01	+2.5399994E-01	+2.7891451E-01
17.0	5	+3.1371992E-01	+9.6282112E-03	+3.2859998E-01	+3.0499994E-01	+2.7871215E-01
19.0	2	+3.7424993E-01	+7.4227337E-03	+3.7949997E-01	+3.6899995E-01	+2.7830737E-01
20.0	2	+3.0949997E-01	+4.4547473E-02	+3.4099996E-01	+2.7799999E-01	+2.7810502E-01
21.0	2	+2.4524998E-01	+1.1665027E-02	+2.5349998E-01	+2.3699998E-01	+2.7790266E-01
26.0	1	+2.3849999E-01	+0.0000000E+11	+2.3849999E-01	+2.3849999E-01	+2.7689081E-01
27.0	2	+2.4309992E-01	+3.5779684E-02	+2.6839995E-01	+2.1779996E-01	+2.7668845E-01
28.0	7	+2.3372822E-01	+1.8825331E-02	+2.7399998E-01	+2.1599996E-01	+2.7648609E-01
29.0	4	+2.8624987E-01	+5.0811438E-02	+3.3839994E-01	+2.3529994E-01	+2.7628374E-01
30.0	7	+2.4958539E-01	+5.1991427E-02	+3.2249999E-01	+1.9289994E-01	+2.7608138E-01
31.0	2	+2.3549991E-01	+6.5336533E-02	+2.8169995E-01	+1.8929994E-01	+2.7587902E-01
32.0	1	+1.9999998E-01	+0.0000000E+35	+1.9999998E-01	+1.9999998E-01	+2.7567666E-01
33.0	2	+3.1484997E-01	+1.5344388E-02	+3.2569998E-01	+3.0399996E-01	+2.7547430E-01
34.0	1	+2.8289997E-01	+0.0000000E+43	+2.8289997E-01	+2.8289997E-01	+2.7527189E-01
35.0	3	+2.9726660E-01	+3.6807095E-02	+3.1999999E-01	+2.5479996E-01	+2.7506953E-01
36.0	2	+1.6299998E-01	+5.8189520E-05	+1.6299998E-01	+1.6299998E-01	+2.7486717E-01
38.0	5	+2.8957974E-01	+3.1595597E-02	+3.2599997E-01	+2.5719994E-01	+2.7446246E-01
39.0	9	+2.7309966E-01	+3.8394535E-02	+3.5159999E-01	+2.3499995E-01	+2.7426010E-01
40.0	2	+2.6074993E-01	+7.6780374E-04	+2.6129996E-01	+2.6019996E-01	+2.7405774E-01
41.0	9	+2.7349954E-01	+1.8339397E-02	+3.0899995E-01	+2.3889994E-01	+2.7385538E-01
42.0	3	+2.4526661E-01	+1.9962750E-02	+2.6479995E-01	+2.2489994E-01	+2.7365297E-01
43.0	2	+2.3384994E-01	+1.6333207E-02	+2.4539995E-01	+2.2229999E-01	+2.7345061E-01
44.0	6	+2.9533302E-01	+9.2536494E-03	+3.0499994E-01	+2.8399997E-01	+2.7324825E-01
45.0	6	+2.8033323E-01	+1.6097159E-02	+2.9899996E-01	+2.5549995E-01	+2.7304589E-01
46.0	6	+2.7819967E-01	+5.1835071E-02	+3.2509994E-01	+1.9899994E-01	+2.7284353E-01
47.0	11	+2.6986318E-01	+1.3137746E-02	+2.9729998E-01	+2.5499999E-01	+2.7264118E-01
48.0	10	+2.6720958E-01	+1.5637862E-02	+2.8299999E-01	+2.2799998E-01	+2.7243882E-01
49.0	8	+2.6876211E-01	+4.0435329E-02	+3.1199997E-01	+2.0299994E-01	+2.7223640E-01
50.0	11	+2.8027230E-01	+3.9631370E-02	+3.4599995E-01	+2.1999996E-01	+2.7203404E-01
51.0	3	+2.8199994E-01	+3.8935647E-02	+3.1199997E-01	+2.3799997E-01	+2.7183169E-01

ANB 3066 PROPELLANT (ANT & ANB UNLND, P POLYMER) TENSILE ER, 1750 IN/MIN, 600 PSI

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
52.0	4	+2.8697490E-01	+2.5368915E-02	+3.2099997E-01	+2.6389998E-01	+2.7162933E-01
53.0	14	+2.9272097E-01	+2.5357599E-02	+3.4399998E-01	+2.3499995E-01	+2.7142697E-01
54.0	9	+2.7929961E-01	+1.4847138E-02	+3.0769997E-01	+2.5399994E-01	+2.7122461E-01
55.0	4	+2.4924993E-01	+3.5112919E-02	+2.8599995E-01	+2.0899999E-01	+2.7102226E-01
56.0	8	+2.8057479E-01	+1.9329844E-02	+3.1999999E-01	+2.5999999E-01	+2.7081990E-01
57.0	12	+2.6977467E-01	+2.8440091E-02	+3.0219995E-01	+2.0499998E-01	+2.7061748E-01
58.0	5	+2.5283980E-01	+2.5936847E-02	+2.7629995E-01	+2.2199994E-01	+2.7041512E-01
59.0	2	+2.9499995E-01	+5.6758363E-04	+2.9539996E-01	+2.9459995E-01	+2.7021276E-01
60.0	4	+2.4987494E-01	+5.3459633E-02	+2.8779995E-01	+1.7329996E-01	+2.7001041E-01
61.0	2	+3.2734996E-01	+1.0438783E-03	+3.2809996E-01	+3.2659995E-01	+2.6980805E-01
62.0	4	+2.7212476E-01	+2.5480396E-02	+3.0559998E-01	+2.4499994E-01	+2.6960569E-01
63.0	6	+2.5061637E-01	+3.9392186E-02	+2.8149998E-01	+1.7799997E-01	+2.6940333E-01
64.0	6	+2.9768306E-01	+2.0760070E-02	+3.2699996E-01	+2.7399998E-01	+2.6920098E-01
65.0	2	+2.3799997E-01	+1.4141501E-02	+2.4799996E-01	+2.2799998E-01	+2.6899856E-01
66.0	4	+2.5324988E-01	+3.0522529E-02	+2.8199994E-01	+2.1599996E-01	+2.6879620E-01
68.0	4	+2.4299991E-01	+9.1285137E-03	+2.5399994E-01	+2.3499995E-01	+2.6839148E-01
69.0	12	+2.7041625E-01	+2.9000400E-02	+2.9999995E-01	+1.9599997E-01	+2.6818913E-01
70.0	2	+2.2699999E-01	+1.3315672E-04	+2.2699999E-01	+2.2699999E-01	+2.6798677E-01
71.0	7	+2.8687107E-01	+2.9553668E-02	+3.1799995E-01	+2.2619998E-01	+2.6778441E-01
72.0	13	+2.7362263E-01	+2.3576064E-02	+3.1399995E-01	+2.3599994E-01	+2.6758199E-01
75.0	3	+2.5569993E-01	+7.2492345E-02	+2.9849994E-01	+1.7199999E-01	+2.6697492E-01
76.0	1	+2.3099994E-01	+0.0000000E+95	+2.3099994E-01	+2.3099994E-01	+2.6677256E-01
77.0	2	+3.0969995E-01	+3.6747417E-03	+3.1229996E-01	+3.0709999E-01	+2.6657021E-01
78.0	6	+2.8011637E-01	+4.2803727E-02	+3.1829994E-01	+2.0989996E-01	+2.6636785E-01
79.0	2	+2.4869996E-01	+1.1877365E-02	+2.5709998E-01	+2.4029999E-01	+2.6616549E-01
80.0	5	+2.4769991E-01	+3.8678805E-02	+2.7529996E-01	+1.8029999E-01	+2.6596307E-01
82.0	3	+2.5416666E-01	+1.3148155E-02	+2.6579999E-01	+2.3989999E-01	+2.6555836E-01
83.0	4	+2.2924995E-01	+5.2948665E-02	+2.8899997E-01	+1.7799997E-01	+2.6535600E-01
84.0	4	+2.4267494E-01	+2.3524100E-02	+2.7699995E-01	+2.2359997E-01	+2.6515364E-01
85.0	2	+2.4544994E-01	+1.0113782E-02	+2.5359994E-01	+2.3929995E-01	+2.6495128E-01
90.0	2	+2.2974997E-01	+1.2656649E-02	+2.3869997E-01	+2.2079998E-01	+2.6393944E-01

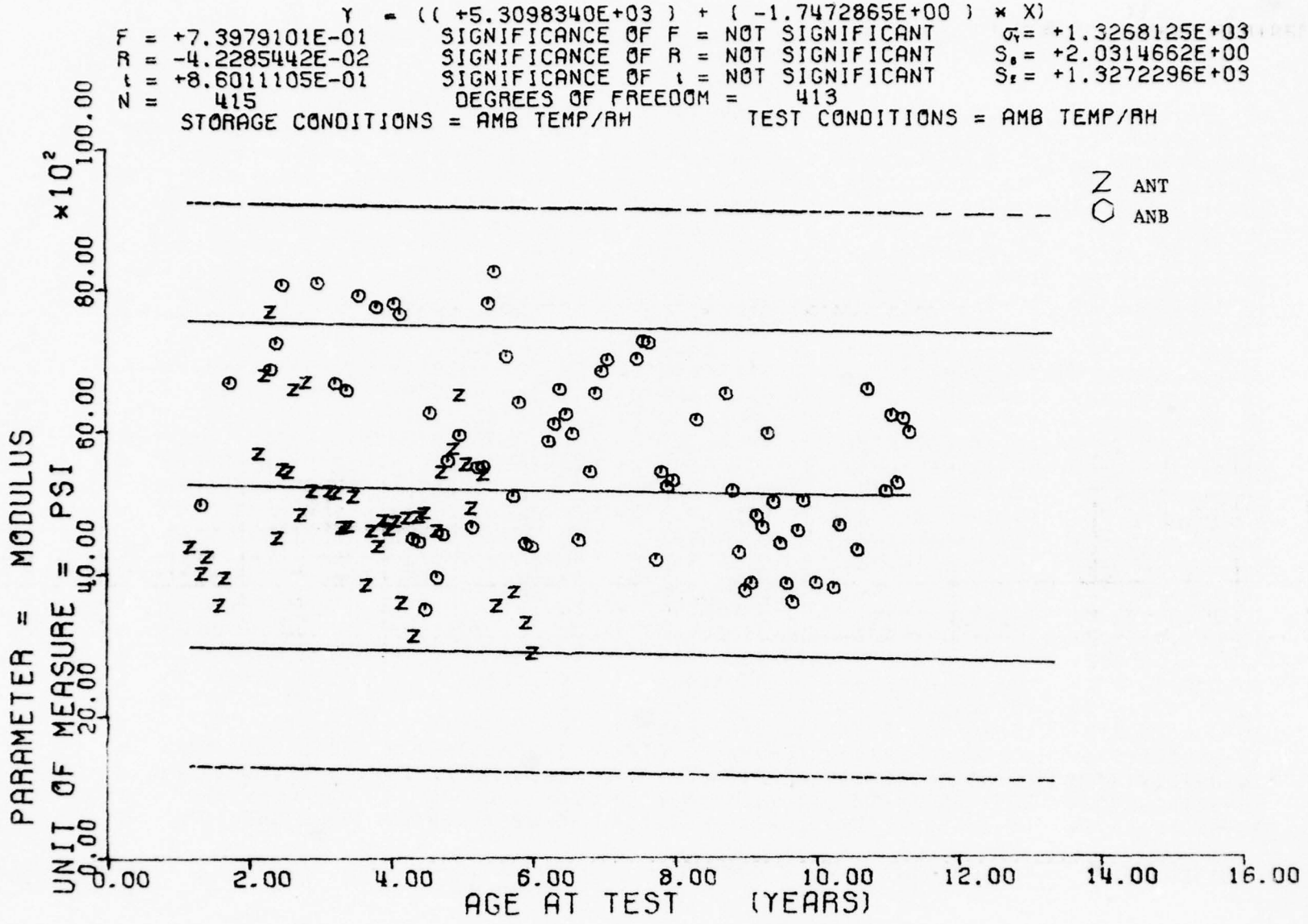
ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) TENSILE ER, 1750 IN/MIN, 600 PSI

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
91.0	2	+2.5194996E-01	+2.8355452E-02	+2.7199995E-01	+2.3189997E-01	+2.6373708E-01
92.0	4	+2.5124979E-01	+1.8043945E-02	+2.7549999E-01	+2.3279994E-01	+2.6353472E-01
93.0	2	+2.6599995E-01	+2.1777583E-02	+2.8239995E-01	+2.5159996E-01	+2.6333236E-01
94.0	4	+2.6149988E-01	+1.8315990E-02	+2.8309994E-01	+2.4599999E-01	+2.6313000E-01
95.0	4	+2.6109981E-01	+2.0136196E-02	+2.8289997E-01	+2.3449999E-01	+2.6292759E-01
96.0	3	+2.4909996E-01	+1.6213978E-02	+2.6749998E-01	+2.3689997E-01	+2.6272523E-01
100.0	2	+2.3894995E-01	+1.3080124E-02	+2.4819999E-01	+2.2969996E-01	+2.6191580E-01
105.0	2	+2.4404996E-01	+5.7259995E-03	+2.4809998E-01	+2.3999994E-01	+2.6090395E-01
106.0	4	+2.6199984E-01	+1.1823039E-02	+2.7969998E-01	+2.5529998E-01	+2.6070159E-01
107.0	4	+2.1684992E-01	+3.7655718E-02	+2.5699996E-01	+1.6899996E-01	+2.6049923E-01
108.0	2	+2.5544995E-01	+1.7324297E-02	+2.6769995E-01	+2.4319994E-01	+2.6029688E-01
109.0	3	+2.5236660E-01	+1.9728064E-03	+2.5449997E-01	+2.5059998E-01	+2.6009452E-01
110.0	8	+2.7227473E-01	+2.1920284E-02	+3.1689995E-01	+2.3899996E-01	+2.5989210E-01
111.0	4	+2.6274991E-01	+1.1956053E-02	+2.7029997E-01	+2.4489998E-01	+2.5968974E-01
112.0	6	+2.5991642E-01	+4.4334370E-02	+3.0509996E-01	+1.8979996E-01	+2.5948739E-01
113.0	5	+2.3895984E-01	+3.3349246E-02	+2.8399997E-01	+1.9169998E-01	+2.5928503E-01
114.0	2	+2.4849992E-01	+2.0930696E-02	+2.6329994E-01	+2.3369997E-01	+2.5908267E-01
115.0	2	+2.7349996E-01	+1.9090827E-02	+2.8699994E-01	+2.5999999E-01	+2.5888031E-01
116.0	2	+3.1289994E-01	+8.3419922E-03	+3.1879997E-01	+3.0699998E-01	+2.5867795E-01
117.0	4	+2.8544974E-01	+1.6110410E-02	+3.0699998E-01	+2.7049994E-01	+2.5847560E-01
118.0	2	+2.5019997E-01	+1.0322438E-02	+2.5749999E-01	+2.4289995E-01	+2.5827318E-01
120.0	2	+2.6049995E-01	+2.3335113E-02	+2.7699995E-01	+2.4399995E-01	+2.5786846E-01
123.0	7	+2.6171398E-01	+2.0527693E-02	+2.8599995E-01	+2.2499996E-01	+2.5726139E-01
124.0	4	+2.5974988E-01	+1.0244803E-02	+2.6899999E-01	+2.4899995E-01	+2.5705903E-01
127.0	6	+2.6183301E-01	+2.8641360E-02	+2.8199994E-01	+2.1499997E-01	+2.5645190E-01
129.0	4	+2.8122496E-01	+1.1819161E-02	+2.8729999E-01	+2.6349997E-01	+2.5604718E-01
132.0	4	+2.6709985E-01	+7.2396711E-03	+2.7649998E-01	+2.6009994E-01	+2.5544011E-01
133.0	2	+2.5579994E-01	+4.9214928E-02	+2.9059994E-01	+2.2099995E-01	+2.5523769E-01
134.0	4	+2.8384995E-01	+4.2482337E-03	+2.8909999E-01	+2.7919995E-01	+2.5503534E-01
135.0	4	+2.4329996E-01	+4.8766267E-03	+2.4979996E-01	+2.3889994E-01	+2.5483298E-01
136.0	2	+2.4694997E-01	+1.9303873E-02	+2.6059997E-01	+2.3329997E-01	+2.5463062E-01

AMR 3066 PROPELNT (ANT & ANB UNLND, P POLYMER) TENSILE ER, 1750 IN/MIN, 600 PSI



ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) TENSILE MOD, 1750 IN/MIN, 600 PS

Figure 5-33

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
14.0	2	+4.3930000E+03	+1.3784048E+01	+4.4030000E+03	+4.383C000E+03	+5.2853710E+03
16.0	11	+4.7240062E+03	+1.5963054E+03	+7.5000000E+03	+3.1470000E+03	+5.2818750E+03
17.0	5	+4.2595976E+03	+1.0115236E+02	+4.4000000E+03	+4.1310000E+03	+5.2801289E+03
19.0	2	+3.5745000E+03	+3.1889104E+02	+3.8000000E+03	+3.349C000E+03	+5.2766328E+03
20.0	2	+3.9630000E+03	+3.0951575E+01	+3.9850000E+03	+3.9410000E+03	+5.2748867E+03
21.0	2	+6.7000000E+03	+2.8284271E+02	+6.9000000E+03	+6.500C000E+03	+5.2731406E+03
26.0	1	+5.7000000E+03	+0.0000000E+11	+5.7000000E+03	+5.700CC00E+03	+5.2644023E+03
27.0	2	+6.8000000E+03	+7.0710678E+02	+7.3000000E+03	+6.3000000E+03	+5.2626562E+03
28.0	7	+7.0000000E+03	+7.7670758E+02	+7.7000000E+03	+5.7000000E+03	+5.2609062E+03
29.0	4	+5.8815000E+03	+1.6532012E+03	+7.8000000E+03	+4.286C000E+03	+5.2591601E+03
30.0	7	+6.9642851E+03	+1.7077236E+03	+9.2000000E+03	+4.7860000E+03	+5.2574140E+03
31.0	2	+5.4420000E+03	+1.0719738E+03	+6.2000000E+03	+4.684C000E+03	+5.2556679E+03
32.0	1	+6.6000000E+03	+0.0000000E+35	+6.6000000E+03	+6.600C000E+03	+5.2539179E+03
33.0	2	+4.8385000E+03	+2.7081266E+02	+5.0300000E+03	+4.647C000E+03	+5.2521718E+03
34.0	1	+6.7000000E+03	+0.0000000E+43	+6.7000000E+03	+6.700C000E+03	+5.2504257E+03
35.0	3	+5.1723320E+03	+1.1574021E+03	+6.5000000E+03	+4.3760000E+03	+5.2486757E+03
36.0	2	+8.1000000E+03	+2.8284271E+02	+8.3000000E+03	+7.900C000E+03	+5.2469296E+03
38.0	5	+5.1745976E+03	+4.9279767E+02	+5.6160000E+03	+4.5520000E+03	+5.2434335E+03
39.0	9	+5.8263320E+03	+1.3117110E+03	+8.4000000E+03	+4.0680000E+03	+5.2416875E+03
40.0	2	+4.6550000E+03	+1.3150665E+02	+4.7480000E+03	+4.5620000E+03	+5.2399414E+03
41.0	9	+5.0971093E+03	+9.5612583E+02	+7.1000000E+03	+3.8190000E+03	+5.2381914E+03
42.0	3	+5.1013320E+03	+3.2192752E+02	+5.4010000E+03	+4.7610000E+03	+5.2364453E+03
43.0	2	+7.9195000E+03	+4.3075515E+01	+7.9500000E+03	+7.889C000E+03	+5.2346992E+03
44.0	6	+3.8485000E+03	+4.5005566E+02	+4.3220000E+03	+3.237C000E+03	+5.2329531E+03
45.0	6	+4.6130000E+03	+4.1486238E+02	+5.0190000E+03	+3.9920000E+03	+5.2312031E+03
46.0	6	+5.5116640E+03	+1.8853523E+03	+8.9000000E+03	+4.128C000E+03	+5.2294570E+03
47.0	11	+4.7534531E+03	+6.5131595E+02	+5.3610000E+03	+3.402C000E+03	+5.2277109E+03
48.0	10	+4.6347968E+03	+6.9228780E+02	+5.4470000E+03	+3.2470000E+03	+5.2259609E+03
49.0	8	+5.5096250E+03	+1.4452303E+03	+7.9000000E+03	+4.1640000E+03	+5.2242148E+03
50.0	11	+4.3367265E+03	+1.8117066E+03	+8.0000000E+03	+1.789C000E+03	+5.2224687E+03
51.0	3	+4.7926640E+03	+3.4981042E+02	+5.1960000E+03	+4.5720000E+03	+5.2207187E+03

AND 3066 PROPELNT (ANT & ANB UNLND, P POLYMER) TENSILE MCD, 1750 IN/MIN, 600 PS

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
52.0	4	+3.8197500E+03	+7.8582605E+02	+4.5790000E+03	+3.1110000E+03	+5.2189726E+03
53.0	14	+4.7604257E+03	+6.1210541E+02	+5.6250000E+03	+3.7380000E+03	+5.2172265E+03
54.0	9	+4.5637773E+03	+1.2178505E+03	+6.1120000E+03	+2.8810000E+03	+5.2154804E+03
55.0	4	+6.2590000E+03	+2.3176686E+03	+8.6000000E+03	+4.1860000E+03	+5.2137304E+03
56.0	8	+4.4437500E+03	+7.9149474E+02	+5.8690000E+03	+3.4900000E+03	+5.2119843E+03
57.0	12	+5.0004140E+03	+1.1979005E+03	+6.3000000E+03	+3.3380000E+03	+5.2102382E+03
58.0	5	+5.5923984E+03	+1.9349542E+03	+7.9000000E+03	+3.9640000E+03	+5.2084882E+03
59.0	2	+5.7580000E+03	+6.3560994E+01	+5.8030000E+03	+5.7130000E+03	+5.2067421E+03
60.0	4	+6.2277500E+03	+7.7191531E+02	+6.8000000E+03	+5.0900000E+03	+5.2049960E+03
61.0	2	+5.5355000E+03	+1.4493964E+02	+5.6380000E+03	+5.4330000E+03	+5.2032460E+03
62.0	4	+4.7907500E+03	+4.3807219E+02	+5.4240000E+03	+4.4230000E+03	+5.2015000E+03
63.0	6	+5.4961640E+03	+1.6465099E+03	+7.9000000E+03	+4.2710000E+03	+5.1997539E+03
64.0	6	+5.4343320E+03	+4.0788217E+02	+5.8000000E+03	+4.7620000E+03	+5.1980039E+03
65.0	2	+7.8000000E+03	+1.4142135E+02	+7.9000000E+03	+7.7000000E+03	+5.1962578E+03
66.0	4	+5.9042500E+03	+2.7459866E+03	+8.8000000E+03	+3.5030000E+03	+5.1945117E+03
68.0	4	+7.0500000E+03	+1.6258331E+03	+8.8000000E+03	+5.3000000E+03	+5.1910156E+03
69.0	12	+4.6407500E+03	+1.0935124E+03	+6.1000000E+03	+3.0550000E+03	+5.1892695E+03
70.0	2	+6.4000000E+03	+9.8994949E+02	+7.1000000E+03	+5.7000000E+03	+5.1875234E+03
71.0	7	+3.7932856E+03	+6.5812314E+02	+4.9690000E+03	+3.2280000E+03	+5.1857734E+03
72.0	13	+4.1528437E+03	+9.1287634E+02	+6.1000000E+03	+2.5570000E+03	+5.1840273E+03
75.0	3	+5.8533320E+03	+9.9189381E+02	+6.7000000E+03	+4.7620000E+03	+5.1787851E+03
76.0	1	+6.1000000E+03	+0.0000000E+95	+6.1000000E+03	+6.1000000E+03	+5.1770390E+03
77.0	2	+6.5850000E+03	+2.0505121E+02	+6.7300000E+03	+6.4400000E+03	+5.1752929E+03
78.0	6	+6.2285000E+03	+1.1988146E+03	+8.2300000E+03	+5.0000000E+03	+5.1735429E+03
79.0	2	+5.9485000E+03	+3.8536151E+02	+6.2210000E+03	+5.6760000E+03	+5.1717968E+03
80.0	5	+4.4671992E+03	+4.1127995E+02	+5.0790000E+03	+3.9720000E+03	+5.1700507E+03
82.0	3	+5.4230000E+03	+3.0919007E+02	+5.7800000E+03	+5.2410000E+03	+5.1665546E+03
83.0	4	+6.5250000E+03	+5.1234753E+02	+7.0000000E+03	+5.8000000E+03	+5.1648085E+03
84.0	4	+6.8250000E+03	+6.8495741E+02	+7.2000000E+03	+5.8000000E+03	+5.1630585E+03
85.0	2	+6.9000000E+03	+4.3840620E+02	+7.3000000E+03	+6.6800000E+03	+5.1613125E+03
90.0	2	+7.0000000E+03	+2.8284271E+02	+7.2000000E+03	+6.8000000E+03	+5.1525781E+03

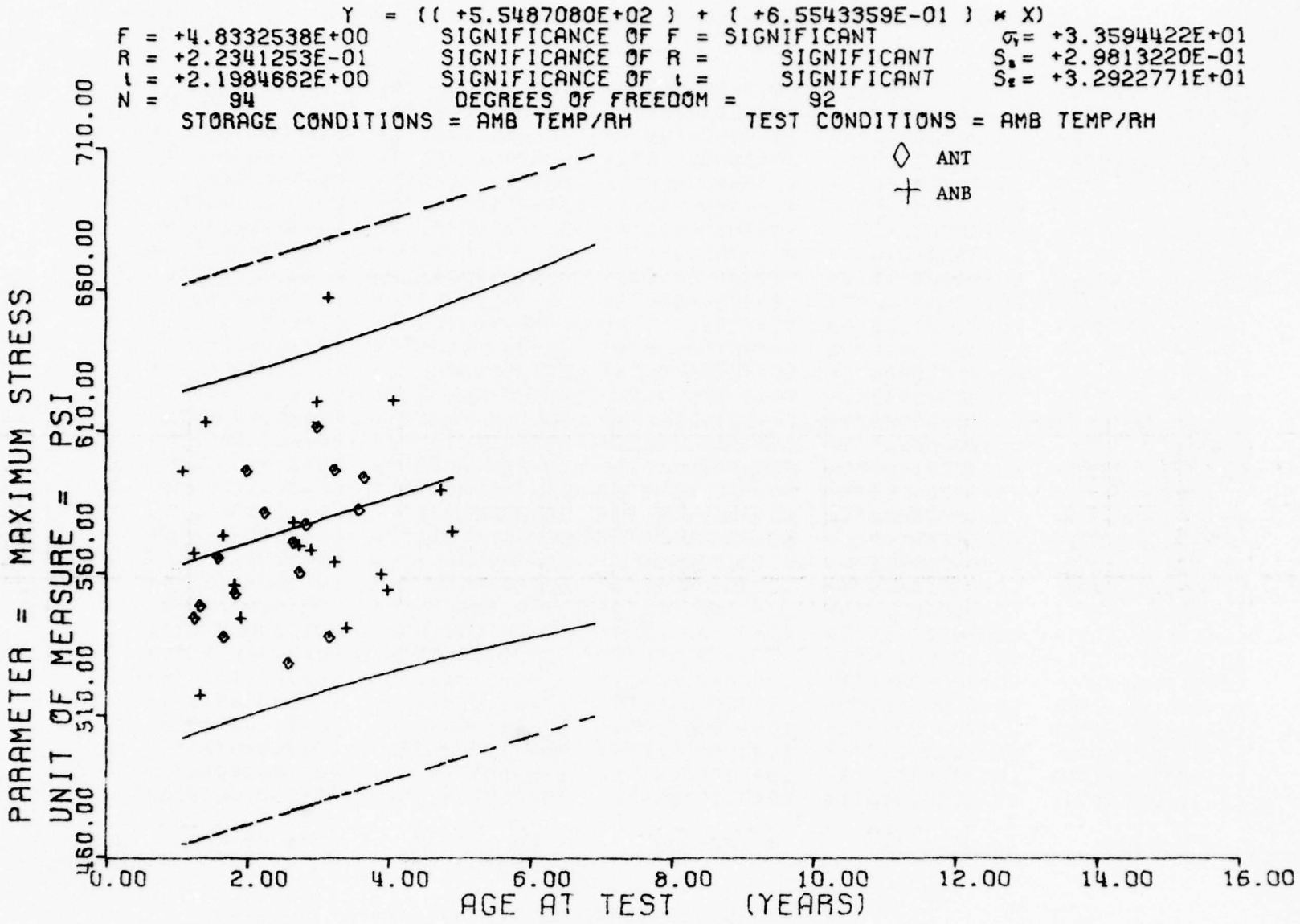
ANB 3066 PROPELLANT (ANT & ANB UNLND, P POLYMER) TENSILE MOD, 1750 IN/MIN, 600 PS

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
91.0	2	+7.2500000E+03	+3.5355339E+02	+7.5000000E+03	+7.0000000E+03	+5.1508281E+03
92.0	4	+7.2300000E+03	+7.9002109E+02	+7.9400000E+03	+6.1000000E+03	+5.1490820E+03
93.0	2	+4.1915000E+03	+1.1523671E+02	+4.2730000E+03	+4.1100000E+03	+5.1473359E+03
94.0	4	+5.4145000E+03	+4.0480077E+02	+5.7750000E+03	+5.0640000E+03	+5.1455859E+03
95.0	4	+5.2065000E+03	+8.6242275E+02	+6.2340000E+03	+4.1740000E+03	+5.1438398E+03
96.0	3	+5.3013320E+03	+5.3394132E+02	+5.8000000E+03	+4.7380000E+03	+5.1420937E+03
100.0	2	+6.1445000E+03	+9.9206426E+02	+6.8460000E+03	+5.4430000E+03	+5.1351015E+03
105.0	2	+6.5110000E+03	+2.5171015E+02	+6.6890000E+03	+6.3330000E+03	+5.1263671E+03
106.0	4	+5.1477500E+03	+6.9685100E+02	+5.7930000E+03	+4.4790000E+03	+5.1246210E+03
107.0	4	+4.2877500E+03	+6.4361887E+02	+5.1600000E+03	+3.6460000E+03	+5.1228710E+03
108.0	2	+3.7505000E+03	+6.4338946E+01	+3.7960000E+03	+3.7050000E+03	+5.1211250E+03
109.0	3	+3.8596665E+03	+2.1788949E+02	+4.1070000E+03	+3.6960000E+03	+5.1193789E+03
110.0	8	+4.8020000E+03	+6.9844398E+02	+5.9660000E+03	+3.8660000E+03	+5.1176289E+03
111.0	4	+4.6387500E+03	+3.5448824E+02	+5.0020000E+03	+4.1720000E+03	+5.1158828E+03
112.0	6	+5.9546640E+03	+8.8008060E+02	+6.7980000E+03	+4.3490000E+03	+5.1141367E+03
113.0	5	+4.9880000E+03	+6.9817762E+02	+5.7550000E+03	+3.8530000E+03	+5.1123906E+03
114.0	2	+4.4050000E+03	+4.9496464E+02	+4.7550000E+03	+4.0550000E+03	+5.1106406E+03
115.0	2	+3.8440000E+03	+9.3054822E+02	+4.5020000E+03	+3.1860000E+03	+5.1088945E+03
116.0	2	+3.5900000E+03	+3.2383946E+02	+3.8190000E+03	+3.3610000E+03	+5.1071484E+03
117.0	4	+4.5937500E+03	+2.8285435E+02	+4.8140000E+03	+4.2000000E+03	+5.1053984E+03
118.0	2	+5.0065000E+03	+1.9724984E+02	+5.1460000E+03	+4.8670000E+03	+5.1036523E+03
120.0	2	+3.8530000E+03	+7.8346793E+02	+4.4070000E+03	+3.2990000E+03	+5.1001562E+03
123.0	7	+3.7835712E+03	+6.2518460E+02	+4.3430000E+03	+2.6460000E+03	+5.0949140E+03
124.0	4	+4.6850000E+03	+6.6153659E+02	+5.4480000E+03	+3.8700000E+03	+5.0931679E+03
127.0	6	+4.3173320E+03	+5.3222050E+02	+4.7750000E+03	+3.4820000E+03	+5.0879257E+03
129.0	4	+6.5622500E+03	+8.3368014E+02	+7.6680000E+03	+5.6430000E+03	+5.0844335E+03
132.0	4	+5.1350000E+03	+2.5272646E+02	+5.3390000E+03	+4.7730000E+03	+5.0791914E+03
133.0	2	+6.2025000E+03	+1.1292490E+03	+7.0010000E+03	+5.4040000E+03	+5.0774414E+03
134.0	4	+5.2515000E+03	+3.1513753E+02	+5.5300000E+03	+4.8560000E+03	+5.0756953E+03
135.0	4	+6.1555000E+03	+4.4802343E+02	+6.5920000E+03	+5.7190000E+03	+5.0739492E+03
136.0	2	+5.9595000E+03	+4.6173531E+02	+6.2860000E+03	+5.6330000E+03	+5.0721992E+03

ANB 3066 PROPELLNT (ANT & ANB UNLND, P POLYMER) TENSILE MOD, 1750 IN/MIN, 600 PS



ANB 3066 PROPLLNT (ANT & ANB LINED, P POLYMER) TENSILE SM, 1750 IN/MIN 600 PSI

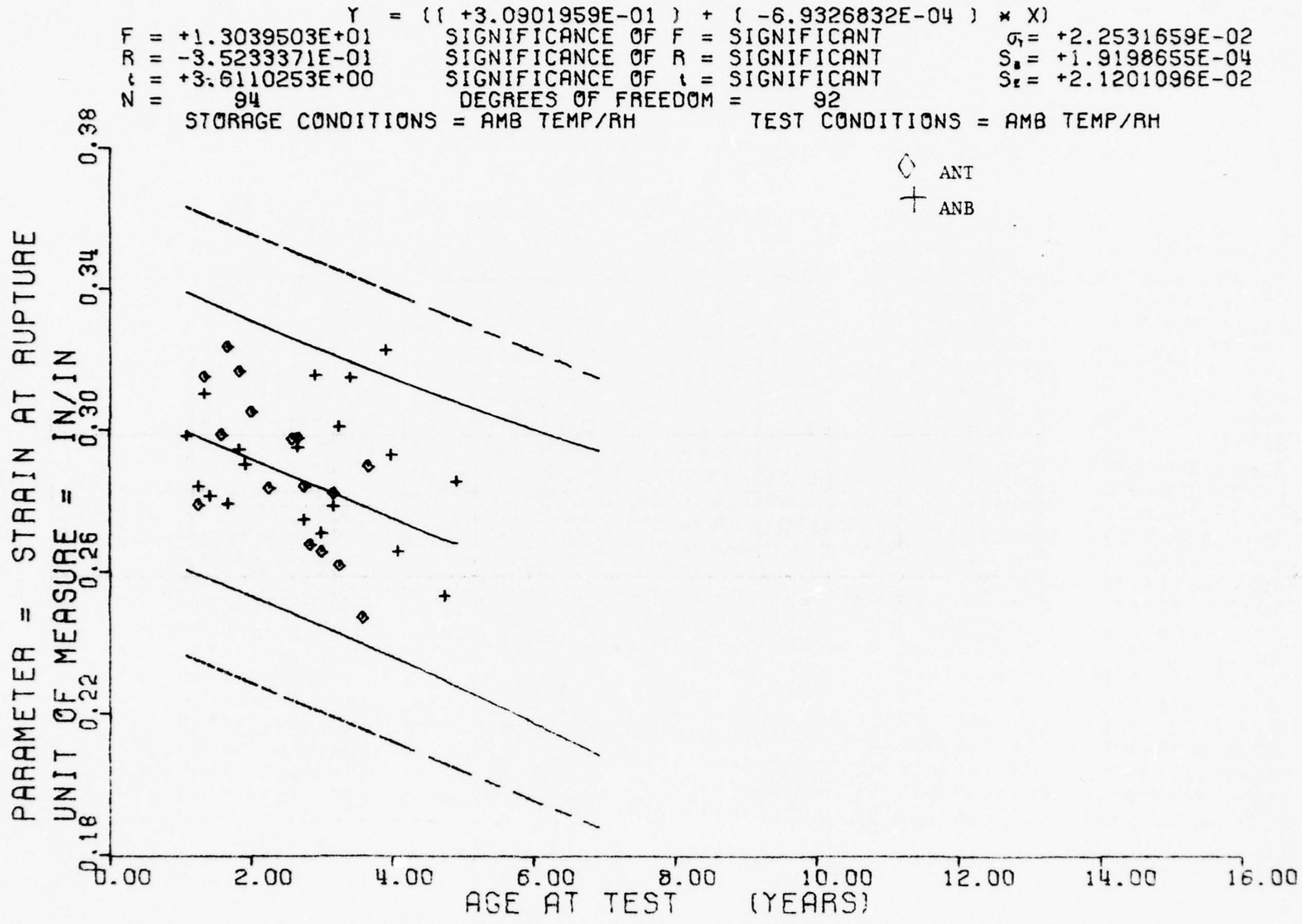
Figure 5-34

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+5.9531323E+02	+1.2012212E+01	+6.0511987E+02	+5.8262988E+02	+5.6339135E+02
15.0	5	+5.5375781E+02	+1.3618780E+01	+5.7216992E+02	+5.3866992E+02	+5.6470214E+02
16.0	5	+5.3625976E+02	+2.4927561E+01	+5.5734985E+02	+4.9300000E+02	+5.6535766E+02
17.0	4	+5.1354457E+02	+1.5196654E+01	+5.3251977E+02	+5.9556982E+02	+5.6601293E+02
19.0	3	+5.6592651E+02	+2.9032994E+01	+5.8417993E+02	+5.3244995E+02	+5.6732397E+02
20.0	5	+5.5204980E+02	+2.5113722E+01	+5.7752978E+02	+5.1244995E+02	+5.6797924E+02
22.0	7	+5.5484545E+02	+2.6650618E+01	+5.9302978E+02	+5.0891992E+02	+5.6929028E+02
23.0	2	+5.4451474E+02	+3.1929269E+01	+5.6718994E+02	+5.2203979E+02	+5.6994555E+02
24.0	3	+5.2634985E+02	+2.9398610E+01	+5.6001977E+02	+5.6343994E+02	+5.7060107E+02
27.0	6	+5.8172973E+02	+2.5837751E+01	+6.2500976E+02	+5.6240991E+02	+5.7256738E+02
31.0	3	+5.2670654E+02	+1.2377868E+01	+5.3987988E+02	+5.1540991E+02	+5.7518920E+02
32.0	5	+5.7412573E+02	+9.5835255E+00	+5.8655981E+02	+5.6265991E+02	+5.7584448E+02
33.0	5	+5.6442578E+02	+9.7996952E+00	+5.7940991E+02	+5.5231982E+02	+5.7650000E+02
34.0	5	+5.7734375E+02	+8.1456716E+00	+5.8877978E+02	+5.7026977E+02	+5.7715551E+02
35.0	1	+5.6868994E+02	+0.0000000E+95	+5.6868994E+02	+5.6868994E+02	+5.7781079E+02
36.0	6	+6.1790649E+02	+3.1715570E+01	+6.6350976E+02	+5.7050976E+02	+5.7846630E+02
38.0	4	+5.9769238E+02	+7.1454559E+01	+6.7832983E+02	+5.2925000E+02	+5.7977709E+02
39.0	7	+5.8738671E+02	+2.1204946E+01	+6.1726977E+02	+5.5730981E+02	+5.8043261E+02
41.0	2	+5.4117480E+02	+9.6415661E+00	+5.4798999E+02	+5.3435986E+02	+5.8174340E+02
43.0	2	+5.8244970E+02	+3.2008095E+01	+6.0507983E+02	+5.5981982E+02	+5.8305444E+02
44.0	2	+5.9392968E+02	+6.5916695E+00	+5.9856982E+02	+5.8928979E+02	+5.8370971E+02
47.0	1	+5.6019995E+02	+0.0000000E+23	+5.6019995E+02	+5.6019995E+02	+5.8567602E+02
48.0	2	+5.5442968E+02	+1.4649574E+01	+5.6477978E+02	+5.4407983E+02	+5.8633154E+02
49.0	2	+5.2115478E+02	+2.2723335E+01	+5.3721997E+02	+5.0508984E+02	+5.8698681E+02
57.0	2	+5.8947485E+02	+1.4148986E+01	+5.9947998E+02	+5.7946997E+02	+5.9223046E+02
59.0	2	+5.7437988E+02	+5.7970278E+01	+6.1586987E+02	+5.3388989E+02	+5.9354125E+02

AMB 3066 PROPLLNT (ANT 5 ANB LINED, P POLYMER) TENSILE SM, 1750 IN/MIN 600 PSI



ANB 3066 PROPLLNT (ANT & ANB LINED, P POLYMER) TENSILE ER, 1750 IN/MIN 600 PSI

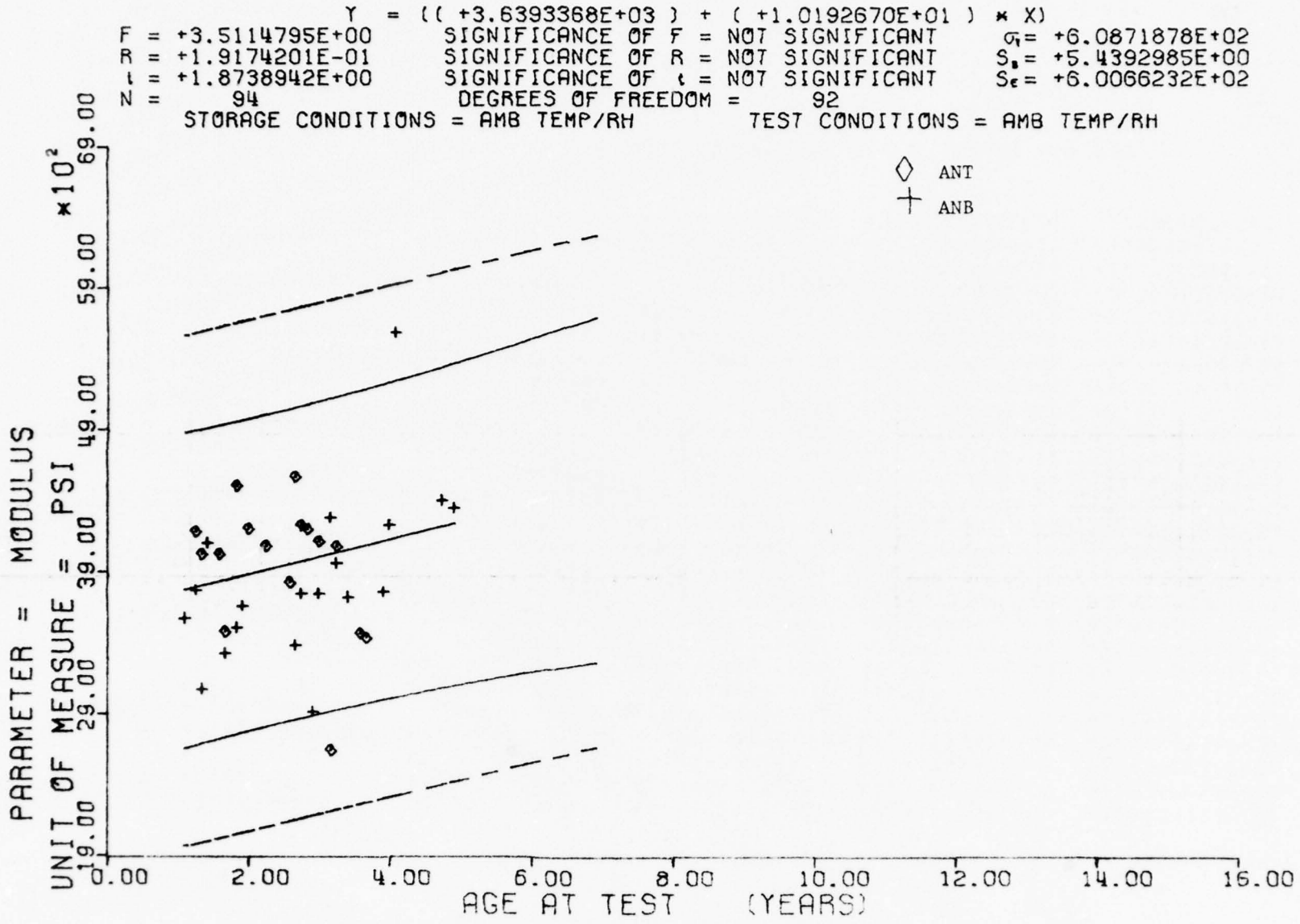
Figure 5-35

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+2.9876661E-01	+3.9579247E-03	+3.0909997E-01	+2.9319995E-01	+3.0000704E-01
15.0	5	+2.8125971E-01	+7.6037087E-03	+2.9419994E-01	+2.7459996E-01	+2.9862052E-01
16.0	5	+3.1343990E-01	+1.9097621E-02	+3.4029996E-01	+2.9479998E-01	+2.9792726E-01
17.0	4	+2.8162479E-01	+2.3551482E-02	+2.9809999E-01	+2.4719995E-01	+2.9723399E-01
19.0	3	+2.9866662E-01	+1.3737833E-02	+3.1469994E-01	+2.9009997E-01	+2.9584747E-01
20.0	5	+3.0511991E-01	+2.5058445E-02	+3.2639998E-01	+2.7199995E-01	+2.9515421E-01
22.0	7	+3.0435681E-01	+2.2559001E-02	+3.4229999E-01	+2.7519994E-01	+2.9376763E-01
23.0	2	+2.9059994E-01	+1.7393700E-02	+3.0289995E-01	+2.7829998E-01	+2.9307436E-01
24.0	3	+3.0546659E-01	+2.3479935E-02	+3.2959997E-01	+2.8269994E-01	+2.9238110E-01
27.0	6	+2.8403294E-01	+2.0393658E-02	+3.1209999E-01	+2.5999999E-01	+2.9030132E-01
31.0	3	+2.9779994E-01	+1.3194786E-02	+3.1299996E-01	+2.8929996E-01	+2.8752821E-01
32.0	5	+2.9719978E-01	+1.6253995E-02	+3.1469994E-01	+2.7209997E-01	+2.8683495E-01
33.0	5	+2.8071975E-01	+1.4280877E-02	+3.0599999E-01	+2.7139997E-01	+2.8614169E-01
34.0	5	+2.6813983E-01	+1.8586370E-02	+2.9699999E-01	+2.4899995E-01	+2.8544843E-01
35.0	1	+3.1599998E-01	+0.0000000E+95	+3.1599998E-01	+3.1599998E-01	+2.8475517E-01
36.0	6	+2.6949959E-01	+8.3757450E-03	+2.7959996E-01	+2.5799995E-01	+2.8406190E-01
38.0	4	+2.8069996E-01	+8.4955994E-03	+2.9199999E-01	+2.7299994E-01	+2.8267538E-01
39.0	7	+2.7342808E-01	+2.3414757E-02	+3.0709999E-01	+2.4099999E-01	+2.8198212E-01
41.0	2	+3.1514996E-01	+1.1808990E-02	+3.2349997E-01	+3.0679994E-01	+2.8059554E-01
43.0	2	+2.4749994E-01	+2.8990895E-02	+2.6799994E-01	+2.2699999E-01	+2.7920901E-01
44.0	2	+2.8999996E-01	+1.4027190E-03	+2.9099994E-01	+2.8899997E-01	+2.7851575E-01
47.0	1	+3.2299995E-01	+0.0000000E+23	+3.2299995E-01	+3.2299995E-01	+2.7643597E-01
48.0	2	+2.9304993E-01	+2.7532039E-03	+2.9499995E-01	+2.9109996E-01	+2.7574270E-01
49.0	2	+2.6614993E-01	+4.4537027E-03	+2.6929998E-01	+2.6299995E-01	+2.7504938E-01
57.0	2	+2.5149998E-01	+4.9492657E-03	+2.5699996E-01	+2.5000000E-01	+2.6950329E-01
59.0	2	+2.8589993E-01	+7.2105936E-03	+2.9099994E-01	+2.8079998E-01	+2.6811671E-01

ANB 3066 PROPELLNT (ANT & ANB LINED, P POLYMER) TENSILE ER, 1750 IN/MIN 600 PSI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F = +3.5114795E+00 SIGNIFICANCE OF F = NOT SIGNIFICANT σ1 = +6.0871878E+02
R = +1.9174201E-01 SIGNIFICANCE OF R = NOT SIGNIFICANT Sb = +5.4392985E+00
t = +1.8738942E+00 SIGNIFICANCE OF t = NOT SIGNIFICANT Sε = +6.0066232E+02
N = 94 DEGREES OF FREEDOM = 92
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH
ANT
ANB
PARAMETER = MODULUS
UNIT OF MEASURE = PSI *10²
19.00
29.00
39.00
49.00
59.00
69.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPLLNT (ANT & ANB LINED, P POLYMER) TENSILE MOD, 1750 IN/MIN 600 PSI

Figure 5-36

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+3.5793332E+03	+3.7753851E+02	+3.8290000E+03	+3.1450000E+03	+3.7718413E+03
15.0	5	+4.0275998E+03	+3.0744723E+02	+4.4450000E+03	+3.5860000E+03	+3.7922268E+03
16.0	5	+3.6531999E+03	+6.4318753E+02	+4.4310000E+03	+2.8960000E+03	+3.8024194E+03
17.0	4	+4.1157500E+03	+5.5979750E+02	+4.9430000E+03	+3.7330000E+03	+3.8126120E+03
19.0	3	+4.0360000E+03	+3.6049965E+02	+4.3950000E+03	+3.6740000E+03	+3.8329973E+03
20.0	5	+3.4267996E+03	+1.7862306E+02	+3.6510000E+03	+3.2400000E+03	+3.8431901E+03
22.0	7	+3.0471428E+03	+7.5116385E+02	+5.2190000E+03	+2.9420000E+03	+3.8635754E+03
23.0	2	+3.5735000E+03	+2.9061916E+02	+3.8790000E+03	+3.4680000E+03	+3.8737680E+03
24.0	3	+4.2123320E+03	+6.3507781E+02	+4.5790000E+03	+3.4790000E+03	+3.8839606E+03
27.0	6	+4.0736665E+03	+5.6677602E+02	+4.6900000E+03	+3.2050000E+03	+3.9145388E+03
31.0	3	+3.8333332E+03	+2.6550580E+02	+4.1010000E+03	+3.5790000E+03	+3.9553095E+03
32.0	5	+4.1033984E+03	+7.0232154E+02	+4.8740000E+03	+3.2740000E+03	+3.9655021E+03
33.0	5	+4.0463999E+03	+3.4270220E+02	+4.5540000E+03	+3.6650000E+03	+3.9756948E+03
34.0	5	+4.2095976E+03	+7.0457703E+02	+4.8300000E+03	+3.1740000E+03	+3.9858874E+03
35.0	1	+2.9250000E+03	+0.0000000E+95	+2.9250000E+03	+2.9250000E+03	+3.9960800E+03
36.0	6	+3.8810000E+03	+3.5973156E+02	+4.5830000E+03	+3.6260000E+03	+4.0062727E+03
38.0	4	+3.4727500E+03	+1.0305943E+03	+4.8490000E+03	+2.6230000E+03	+4.0266582E+03
39.0	7	+4.0554284E+03	+7.3403152E+02	+4.8930000E+03	+3.0320000E+03	+4.0368508E+03
41.0	2	+3.7310000E+03	+1.3009996E+02	+3.8230000E+03	+3.6390000E+03	+4.0572360E+03
43.0	2	+3.4765000E+03	+2.9768355E+02	+3.6870000E+03	+3.2660000E+03	+4.0776215E+03
44.0	2	+3.4450000E+03	+4.2426406E+01	+3.4760000E+03	+3.4160000E+03	+4.0878142E+03
47.0	1	+3.7730000E+03	+0.0000000E+23	+3.7730000E+03	+3.7730000E+03	+4.1183906E+03
48.0	2	+4.2435000E+03	+1.7038632E+02	+4.3640000E+03	+4.1230000E+03	+4.1285820E+03
49.0	2	+5.5970000E+03	+2.5996484E+02	+5.7780000E+03	+5.4160000E+03	+4.1387773E+03
57.0	2	+4.4105000E+03	+5.5530596E+01	+4.4710000E+03	+4.3500000E+03	+4.2203164E+03
59.0	2	+4.3570000E+03	+2.2061278E+02	+4.5130000E+03	+4.2010000E+03	+4.2407031E+03

ANB 3066 PROPELNT (ANT & ANB LINER, P POLYMER) TENSILE MOD, 1750 IN/MIN 600 PSI

SECTION VI
STRESS RELAXATION

An end-bonded 1/2" x 1/2" x 4" bar (1.27 x 1.27 x 10.16 cm) is tested on the stress relaxometer. Load is applied at 2 in/min (.085 cm/sec). Timing begins when load is applied. Specimens are strained at 1%.

The use of 1% strain over the range of temperatures was not introduced into the test program until Phase 3 of Minuteman III testing and Phase B Series 2 for Minuteman II. Master curves (Figures 6-1 thru 6-7) show that the temperature shift is not linear and deviation from linearity is most marked at elevated temperatures. There is very little consistency in the super-positioning. For example, ANA (G Propellant) unlined cartons, corresponds well with ANT (P Propellant) lined cartons. This agreement is better than between lined and unlined cartons of the same type. There is better agreement at elevated temperatures than at cold temperatures, where the differences are noticeable with all systems.

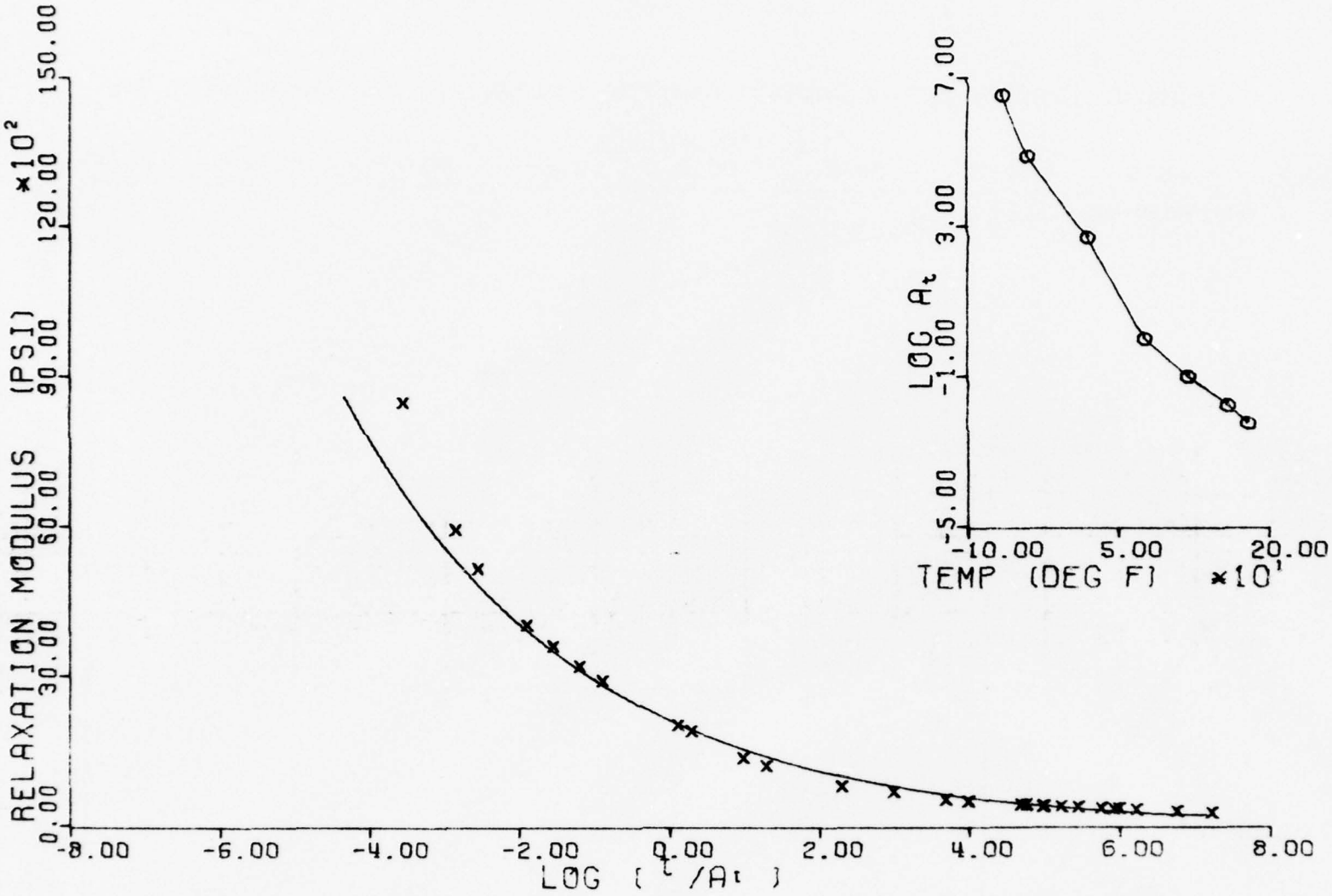
In general, stress relaxation modulus shows a significant increase. The exception is ANB 'G' which shows a significant decrease. (Figures 6-10 and 6-11) which holds when combined with ANA (Figures 6-22 and 6-23).

When gradient stress relaxation is run there is a definite bias between ANB and ANT propellant with ANT (P polymer) showing a higher modulus. The minima exhibited by both ANT and ANB occurs at 2.2 inches from the liner (Figure 6-32).

TABLE 6-1

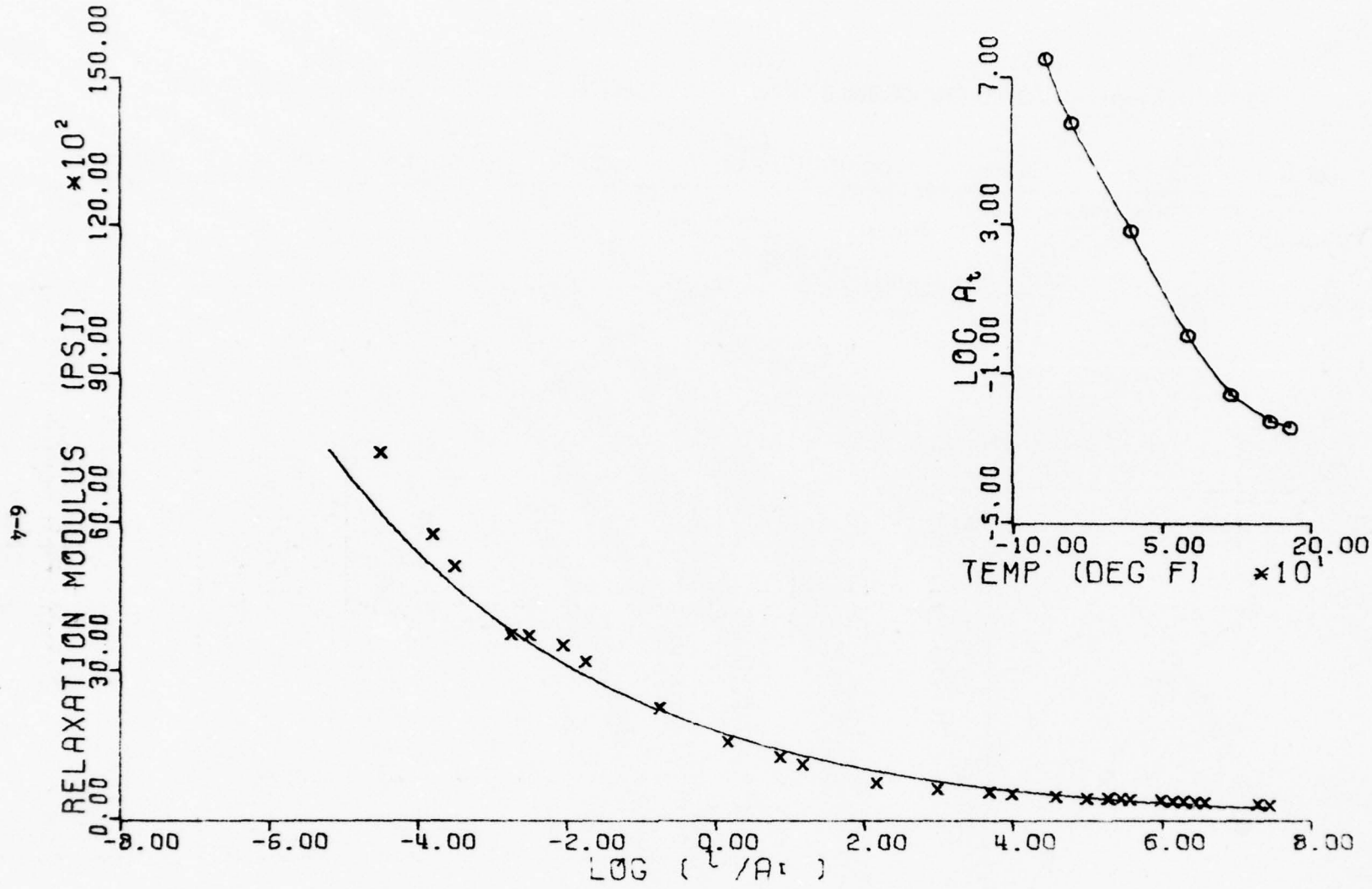
STRESS RELAXATION
Significance of "t"

SYSTEM	n	10 sec	Fig	1000 sec	Fig
ANA, G Unlined	39	Sig inc	6-8	Sig inc.	6-9
ANB G Unlined	114	Sig dec.	6-10	Sig dec	6-11
ANB G Lined	36	NS dec	6-12	NS inc	6-13
ANB P Unlined	84	Sig inc	6-14	Sig inc	6-15
ANB P Lined	33	Sig inc	6-16	Sig inc	6-17
ANT P Unlined	108	NS inc.	6-18	NS inc	6-19
ANT P Lined	57	Sig inc	6-20	Sig inc	6-21
ANA & ANBG Unlined	153	Sig dec	6-22	Sig dec	6-23
ANB G & P Unlined	198	NS inc	6-24	NS dec	6-25
ANB G & P Lined	69	NS inc	6-26	Sig inc	6-27
ANB & ANT P Unlined	222	Sig inc	6-28	Sig inc	6-29
ANB & ANT P Lined	141	Sig inc	6-30	Sig inc	6-31



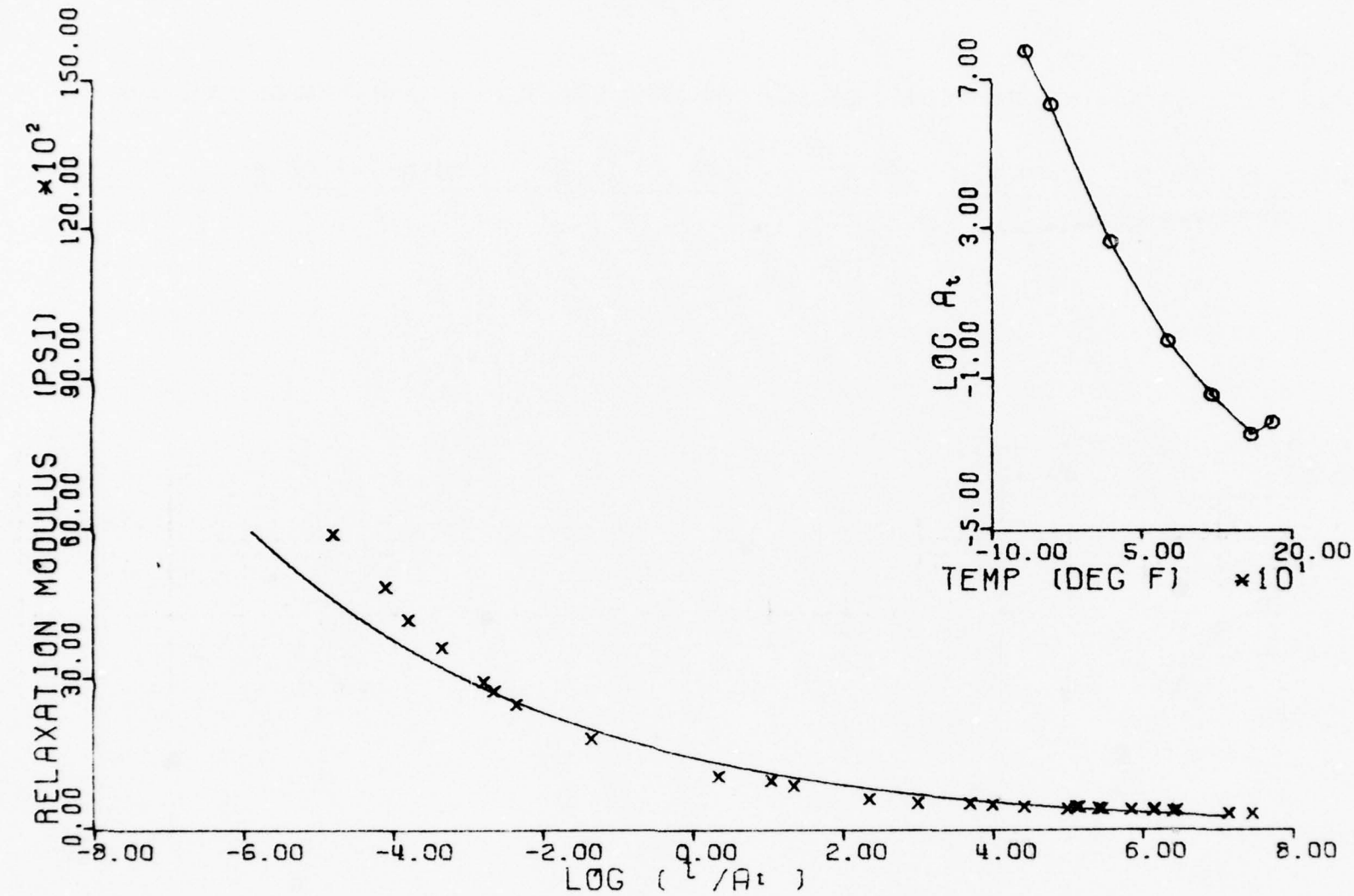
ANB 3066 PROPELLANT (ANA UNLINED CARTONS) STRESS RELAXATION MASTER PLOT

FIGURE 6-1



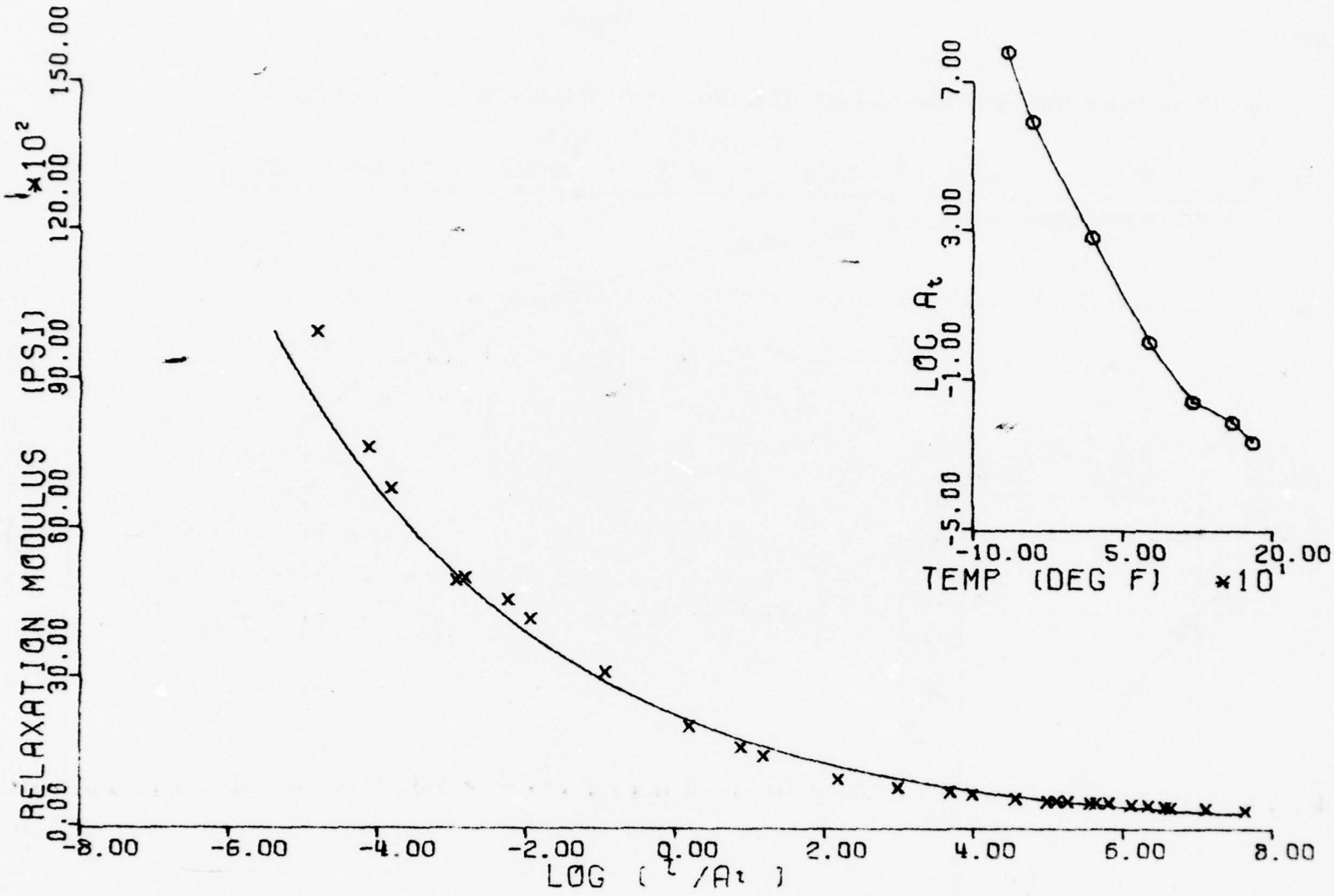
ANB 3066 PROPELLANT 'G' POLYMER UNLINED CARTONS STRESS RELAXATION MASTER PLOT

FIGURE 6-2



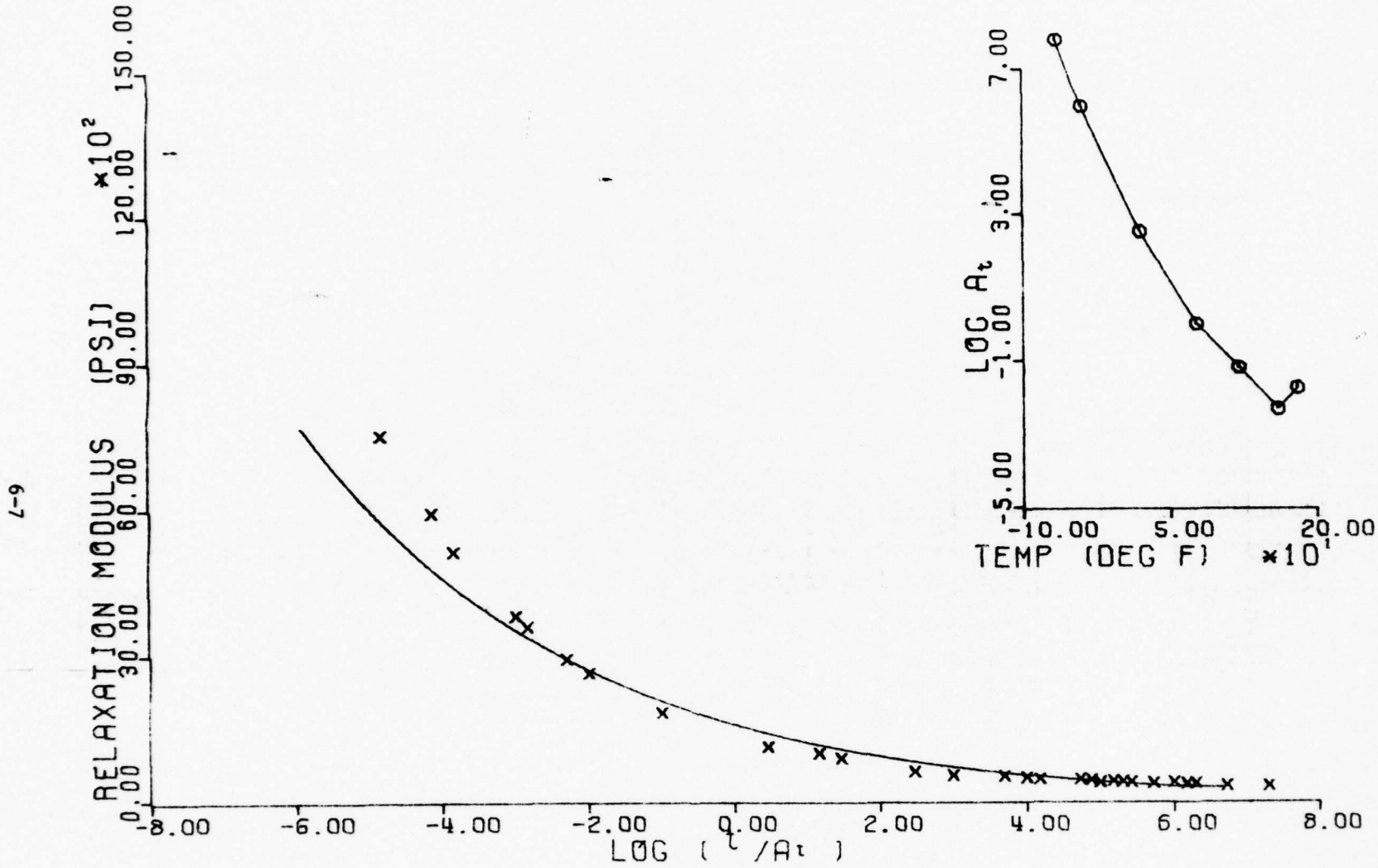
ANB 3066 PROPELLANT 'G' POLYMER LINED CARTONS STRESS RELAXATION MASTER PLOT

FIGURE 6-3



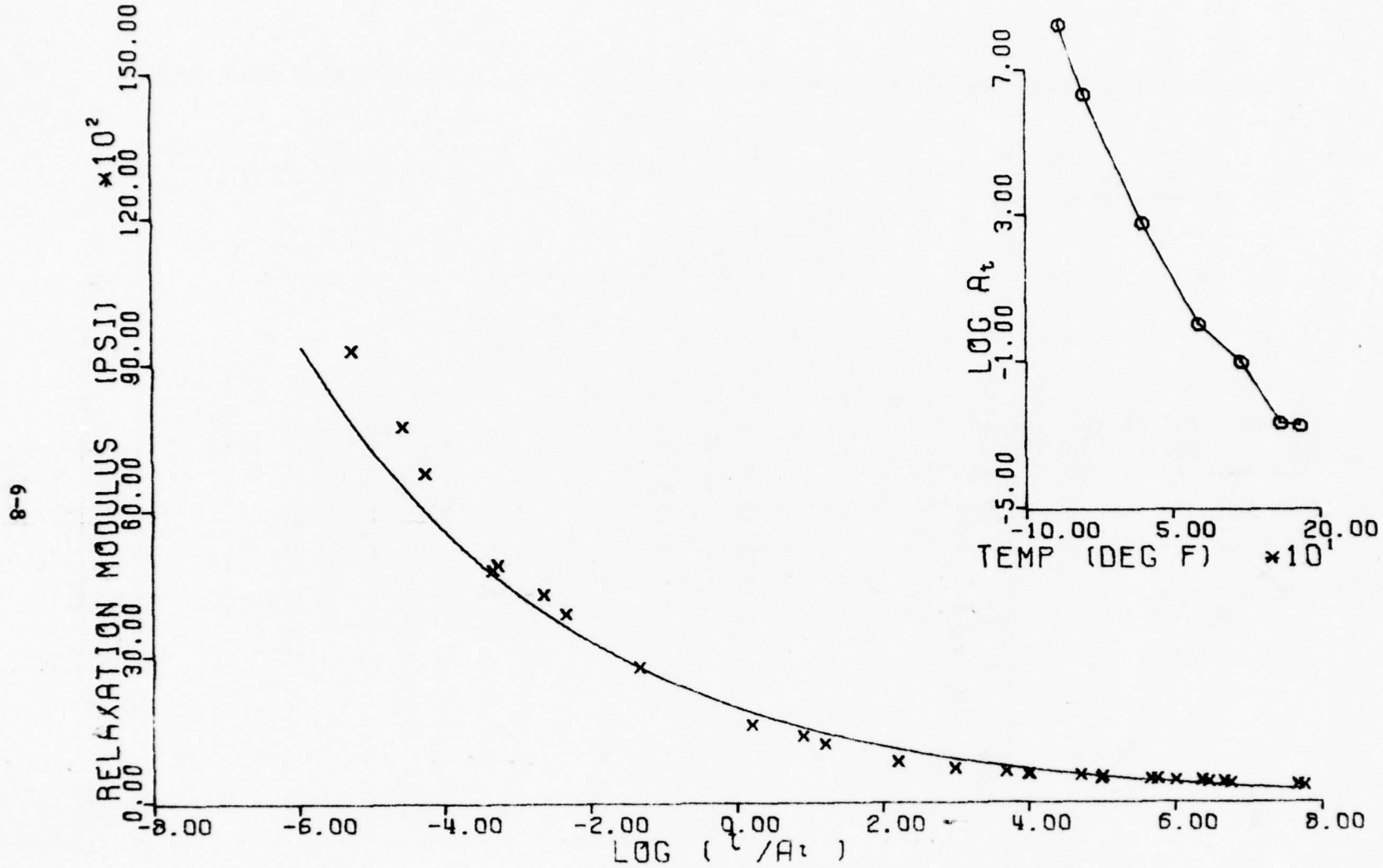
ANB 3066 PROPELLANT 'P' POLYMER UNLINED CARTONS STRESS RELAXATION MASTER PLOT

FIGURE 6-4



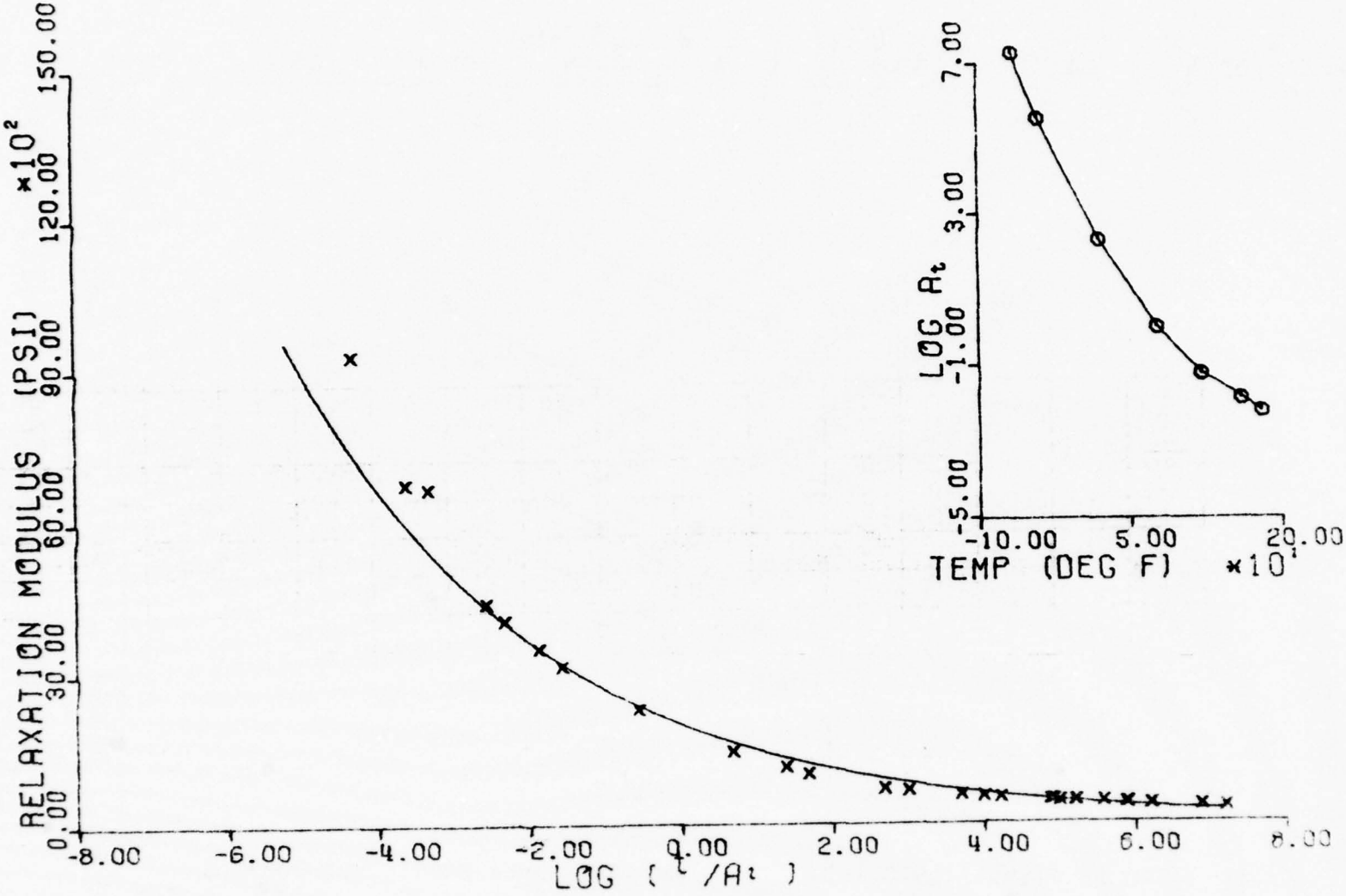
ANB 3066 PROPELLANT 'F' POLYMER LINED CARTONS STRESS RELAXATION MASTER PLOT

FIGURE 6-5



ANB 3066 PROPELLANT ANT 'P' POLYMER UNLND CARTONS STRESS RELAXATION MASTER PLOT

FIGURE 6-6



ANB 3066 PROPELLANT (ANT LINED CARTONS) STRESS RELAXATION MASTER PLOT

FIGURE 6-7

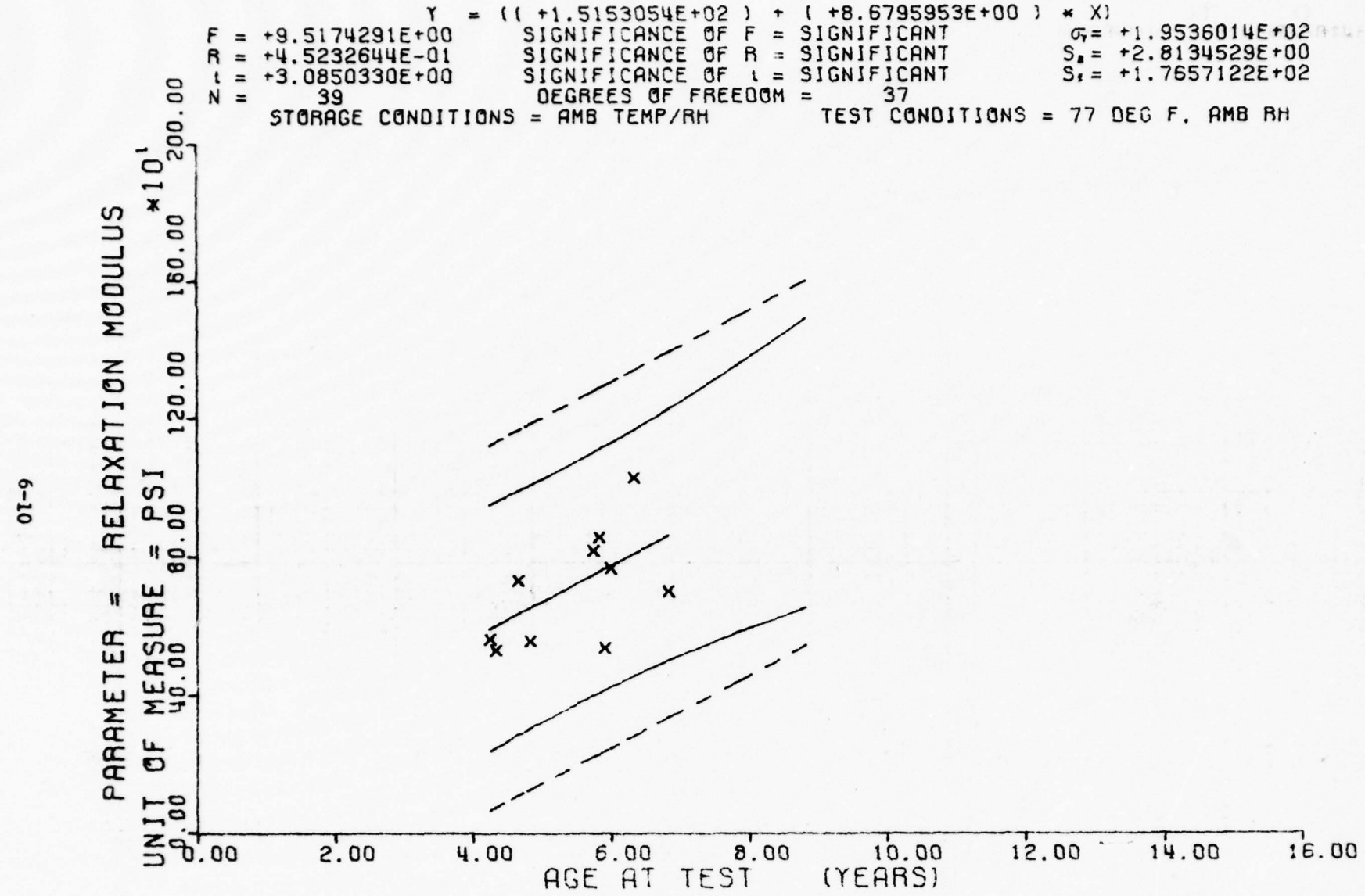

Y = ((+1.5153054E+02) + (+8.6795953E+00) * X)
F = +9.5174291E+00 SIGNIFICANCE OF F = SIGNIFICANT σ = +1.9536014E+02
R = +4.5232644E-01 SIGNIFICANCE OF R = SIGNIFICANT S = +2.8134529E+00
t = +3.0850330E+00 SIGNIFICANCE OF t = SIGNIFICANT S = +1.7657122E+02
N = 39 DEGREES OF FREEDOM = 37
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = RELAXATION MODULUS
UNIT OF MEASURE = PSI *10^1
0.00
40.00
80.00
120.00
160.00
200.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPELLANT (ANA, G POLYMER) RELAX MODULUS @ 10 SEC, UNLND CTNS, 1% STN

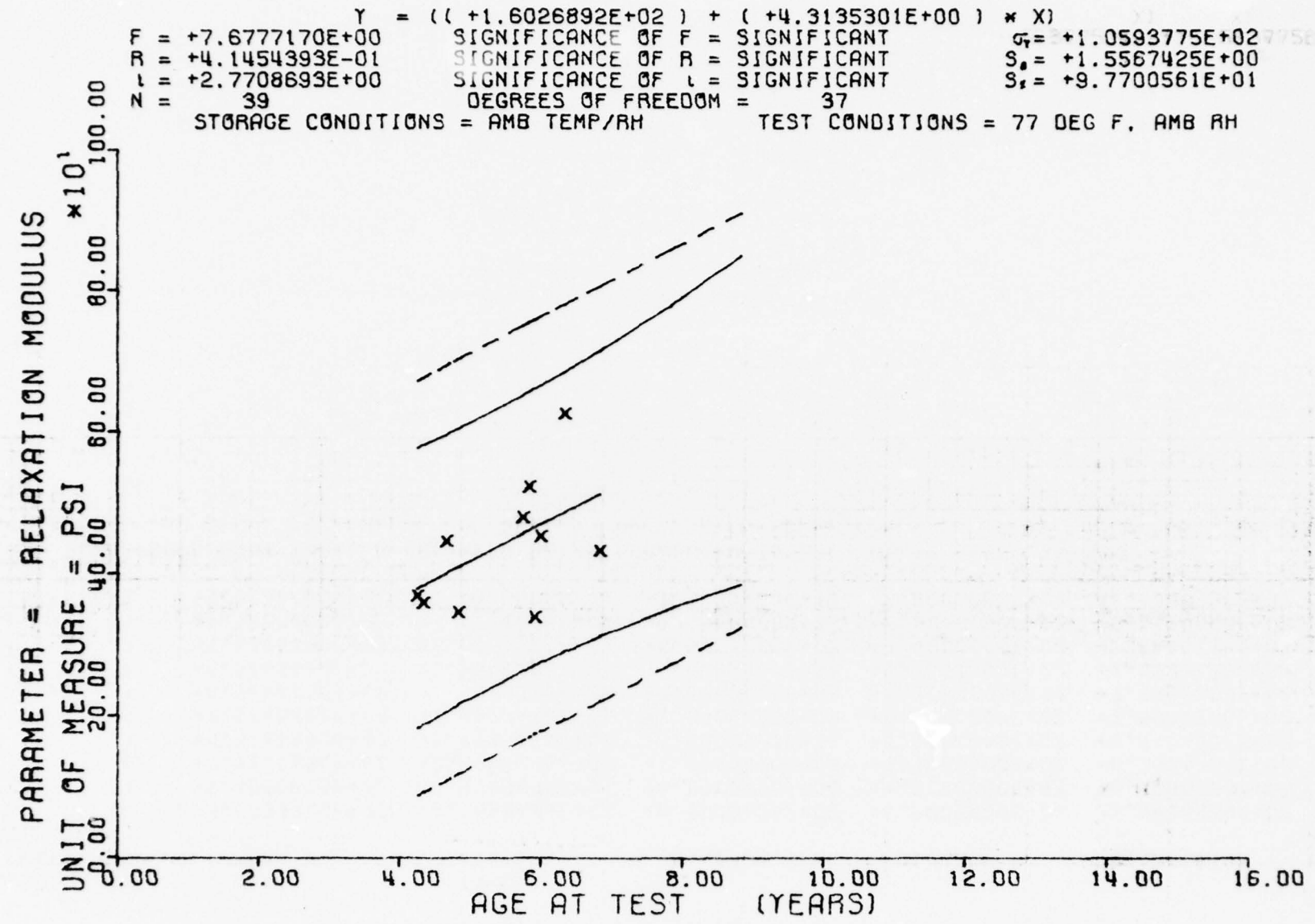
FIGURE 6-8

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
51.0	6	+5.6333325E+02	+9.2448183E+01	+6.8000000E+02	+4.5000000E+02	+5.9418969E+02
52.0	3	+5.3000000E+02	+4.9999999E+01	+5.8000000E+02	+4.8000000E+02	+6.0286938E+02
56.0	6	+7.3166650E+02	+2.3945076E+02	+1.0400000E+03	+4.7000000E+02	+6.3758764E+02
58.0	3	+5.5666650E+02	+5.7735026E+00	+5.6000000E+02	+5.5000000E+02	+6.5494702E+02
69.0	6	+8.1666650E+02	+2.2677448E+02	+1.0400000E+03	+6.1000000E+02	+7.5042260E+02
70.0	3	+8.5666650E+02	+5.5075705E+01	+9.2000000E+02	+8.2000000E+02	+7.5910205E+02
71.0	3	+5.3666650E+02	+1.1547005E+01	+5.5000000E+02	+5.3000000E+02	+7.6778173E+02
72.0	3	+7.6666650E+02	+3.0550504E+01	+8.0000000E+02	+7.4000000E+02	+7.7646118E+02
76.0	3	+1.0300000E+03	+7.2111025E+01	+1.0900000E+03	+9.5000000E+02	+8.1117968E+02
82.0	3	+7.0000000E+02	+1.7320508E+01	+7.1000000E+02	+6.8000000E+02	+8.6325732E+02

ANB 3066 PROPELLANT (ANA, G POLYMER) RELAX MODULUS @ 10 SEC, UNLNC CTNS, 1% STN



ANB 3066 PRPLLNT (ANA, C POLYMER) RELAX MODULUS @ 1000 SEC, UNLND CTNS 1%

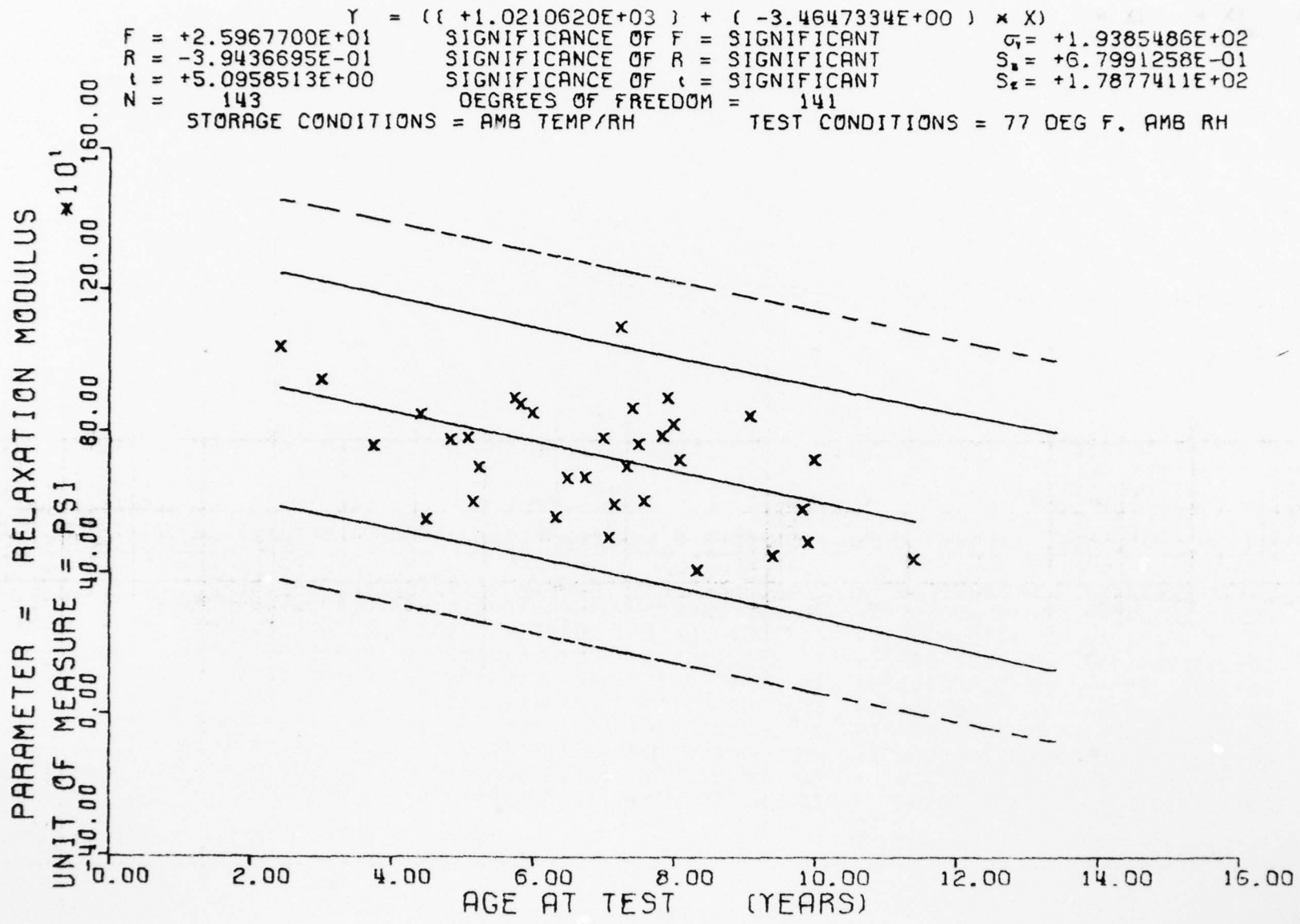
FIGURE 6-9

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
51.0	6	+3.7000000E+02	+5.6568542E+01	+4.4000000E+02	+3.1000000E+02	+3.8025878E+02
52.0	3	+3.6000000E+02	+1.9999999E+01	+3.8000000E+02	+3.4C00000E+02	+3.8457226E+02
56.0	6	+4.4666650E+02	+1.2242004E+02	+6.1000000E+02	+3.1000000E+02	+4.0182641E+02
58.0	3	+3.4666650E+02	+1.1547005E+01	+3.6000000E+02	+3.4C00000E+02	+4.1045361E+02
69.0	6	+4.8000000E+02	+1.3175735E+02	+6.1000000E+02	+3.5C00000E+02	+4.5790234E+02
70.0	3	+5.2333325E+02	+2.3094010E+01	+5.5000000E+02	+5.1000000E+02	+4.6221582E+02
71.0	3	+3.4000000E+02	+9.9999999E+00	+3.5000000E+02	+3.3000000E+02	+4.6652954E+02
72.0	3	+4.5333325E+02	+1.5275252E+01	+4.7000000E+02	+4.4C00000E+02	+4.7084301E+02
76.0	3	+6.2666650E+02	+5.1316014E+01	+6.7000000E+02	+5.7000000E+02	+4.8809716E+02
82.0	3	+4.3333325E+02	+1.5275252E+01	+4.5000000E+02	+4.2000000E+02	+5.1397827E+02

ANB 3066 PRPLLNT (ÅNA, G POLYMER) RELAX MODULUS @ 1000 SEC, UNLND CTNS 1%



ANB 3066 PROPELLANT 'G' POLYMER UNLND CARTONS STRESS RELAX AT 10 SEC 1% STRAIN

FIGURE 6-10

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
29.0	3	+1.0396665E+03	+7.9563391E+01	+1.1300000E+03	+9.8000000E+02	+9.2058471E+02
36.0	2	+9.4700000E+02	+1.2162236E+02	+1.0330000E+03	+8.6100000E+02	+8.9633154E+02
45.0	3	+7.6000000E+02	+5.5677643E+01	+8.1000000E+02	+7.0000000E+02	+8.6514892E+02
53.0	6	+8.5000000E+02	+1.7251086E+02	+1.0400000E+03	+6.6000000E+02	+8.3743119E+02
54.0	3	+5.5333325E+02	+1.1547005E+01	+5.6000000E+02	+5.4000000E+02	+8.3396630E+02
58.0	3	+7.7766650E+02	+3.5076107E+01	+8.1400000E+02	+7.4400000E+02	+8.2010742E+02
61.0	3	+7.8333325E+02	+1.1547005E+01	+7.9000000E+02	+7.7000000E+02	+8.0971313E+02
62.0	3	+6.0333325E+02	+5.7735026E+00	+6.1000000E+02	+6.0000000E+02	+8.0624853E+02
63.0	3	+7.0000000E+02	+3.4641016E+01	+7.4000000E+02	+6.8000000E+02	+8.0278369E+02
69.0	3	+8.9533325E+02	+4.1621308E+01	+9.3500000E+02	+8.5200000E+02	+7.8199536E+02
70.0	3	+8.7833325E+02	+2.8536526E+01	+9.0600000E+02	+8.4900000E+02	+7.7853051E+02
72.0	6	+8.5333325E+02	+9.9933311E+01	+9.9000000E+02	+7.1000000E+02	+7.7160107E+02
76.0	3	+6.6000000E+02	+1.9999999E+01	+5.8000000E+02	+5.4000000E+02	+7.5774218E+02
78.0	3	+6.7000000E+02	+0.0000000E+55	+6.7000000E+02	+6.7000000E+02	+7.5081274E+02
81.0	3	+6.7333325E+02	+8.1445278E+01	+7.3000000E+02	+5.8000000E+02	+7.4041845E+02
84.0	6	+7.8400000E+02	+1.6736905E+02	+1.0040000E+03	+6.1000000E+02	+7.3002441E+02
85.0	3	+5.0333325E+02	+2.3094010E+01	+5.3000000E+02	+4.9000000E+02	+7.2655957E+02
86.0	3	+5.9666650E+02	+5.5075705E+01	+6.5000000E+02	+5.4000000E+02	+7.2309497E+02
87.0	3	+1.0966665E+03	+1.6072751E+02	+1.2800000E+03	+9.8000000E+02	+7.1963012E+02
88.0	12	+7.0283325E+02	+2.2529085E+02	+1.0640000E+03	+4.6000000E+02	+7.1616552E+02
89.0	6	+8.6833325E+02	+1.0796604E+02	+9.9000000E+02	+7.0000000E+02	+7.1270068E+02
90.0	3	+7.6666650E+02	+5.5075705E+01	+8.3000000E+02	+7.3000000E+02	+7.0923587E+02
91.0	3	+6.0666650E+02	+2.3094010E+01	+6.2000000E+02	+5.8000000E+02	+7.0577124E+02
94.0	12	+7.9000000E+02	+2.4826671E+02	+1.4000000E+03	+5.2000000E+02	+6.9537695E+02
95.0	3	+8.9666650E+02	+5.0332229E+01	+9.5000000E+02	+8.5000000E+02	+6.9191235E+02
96.0	6	+8.2333325E+02	+3.5023801E+01	+8.7000000E+02	+7.7000000E+02	+6.8844750E+02
97.0	6	+7.2283325E+02	+8.9031267E+01	+8.2400000E+02	+6.0000000E+02	+6.8498291E+02
100.0	3	+4.1000000E+02	+9.9999999E+00	+4.2000000E+02	+4.0000000E+02	+6.7458862E+02
109.0	3	+8.4700000E+02	+6.9289248E+01	+8.8800000E+02	+7.6700000E+02	+6.4340600E+02
113.0	9	+4.5111108E+02	+4.9609586E+01	+5.1000000E+02	+3.7000000E+02	+6.2954711E+02
118.0	3	+5.8333325E+02	+3.7859788E+01	+6.1000000E+02	+5.4000000E+02	+6.1222338E+02

ANB 3066 PROPELLANT '6' POLYMER UNLND CARTONS STRESS RELAX AT 10 SEC 1% STRAIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
119.0	3	+4.9000000E+02	+9.9999999E+00	+5.0000000E+02	+4.8000000E+02	+6.0875878E+02
120.0	3	+7.2333325E+02	+5.8594652E+01	+7.9000000E+02	+6.8000000E+02	+6.0529394E+02
137.0	3	+4.4333325E+02	+1.1547005E+01	+4.5000000E+02	+4.3000000E+02	+5.4639355E+02

ANB 3056 PROPELLANT 'G' POLYMER UNLND CARTONS STRESS RELAX AT 10 SEC 1% STRAIN

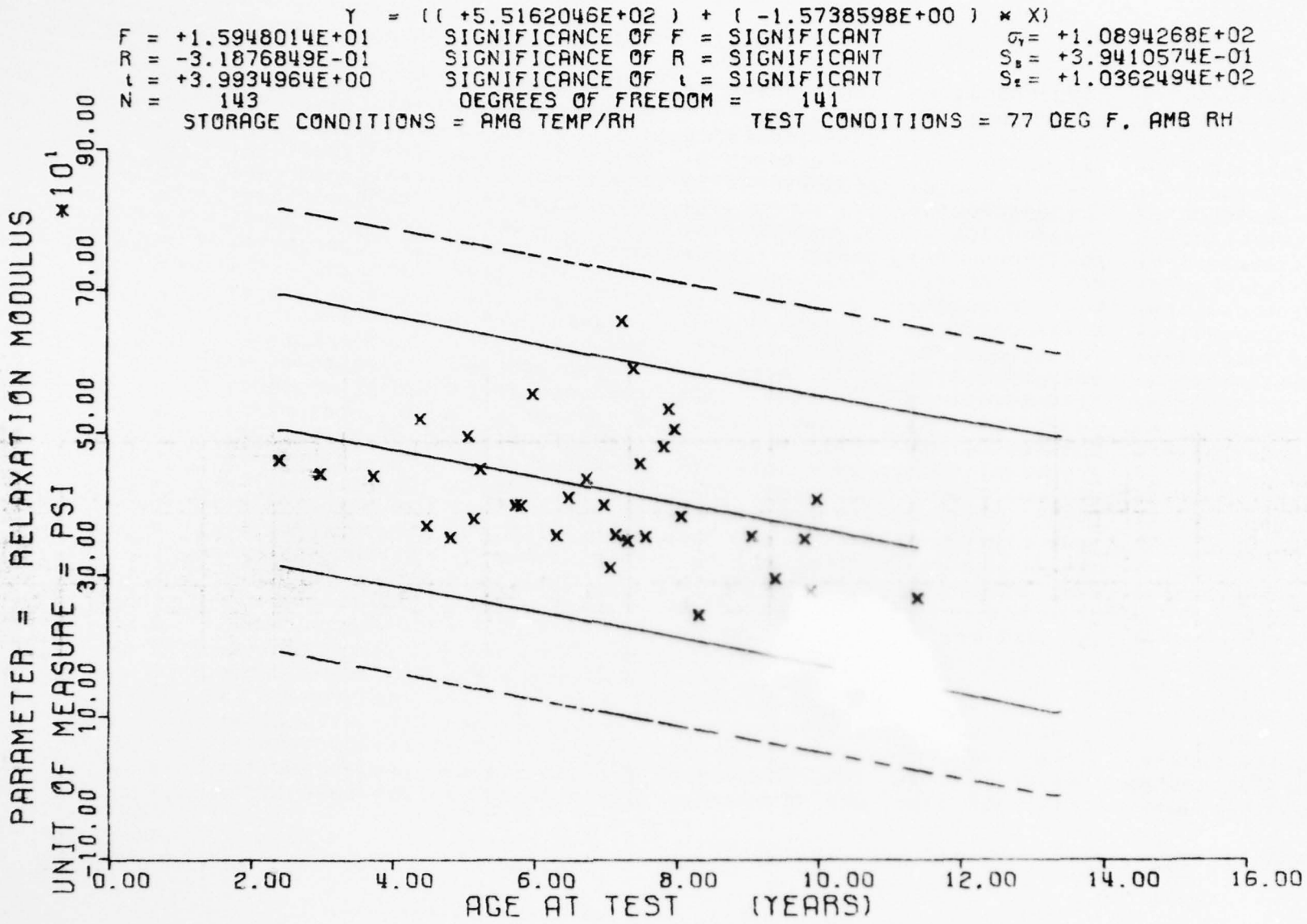

Y = ((+5.5162046E+02) + (-1.5738598E+00) * X)
F = +1.5948014E+01 SIGNIFICANCE OF F = SIGNIFICANT σy = +1.0894268E+02
R = -3.1876849E-01 SIGNIFICANCE OF R = SIGNIFICANT Sb = +3.9410574E-01
t = +3.9934964E+00 SIGNIFICANCE OF t = SIGNIFICANT Sz = +1.0362494E+02
N = 143 DEGREES OF FREEDOM = 141
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = RELAXATION MODULUS
UNIT OF MEASURE = PSI *10¹
90.00
70.00
50.00
30.00
10.00
-10.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPELLANT 'G' POLYMER UNLND CARTONS STRESS RELAX AT 1000 SEC 1% STRAIN

FIGURE 6-11

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
29.0	3	+4.6266650E+02	+4.0278199E+01	+5.0800000E+02	+4.3100000E+02	+5.0597851E+02
36.0	2	+4.4350000E+02	+3.1819805E+01	+4.6600000E+02	+4.2100000E+02	+4.9496142E+02
45.0	3	+4.4000000E+02	+2.6457513E+01	+4.6000000E+02	+4.1000000E+02	+4.8079663E+02
53.0	6	+5.2000000E+02	+9.0553851E+01	+6.3000000E+02	+4.2000000E+02	+4.6820581E+02
54.0	3	+3.7000000E+02	+9.9999999E+00	+3.8000000E+02	+3.6000000E+02	+4.6663183E+02
58.0	3	+3.5366650E+02	+1.4294521E+01	+3.6600000E+02	+3.3800000E+02	+4.6033642E+02
61.0	3	+4.9666650E+02	+1.5275252E+01	+5.1000000E+02	+4.8000000E+02	+4.5561499E+02
62.0	3	+3.8000000E+02	+0.0000000E+31	+3.8000000E+02	+3.8000000E+02	+4.5404101E+02
63.0	3	+4.5000000E+02	+1.7320508E+01	+4.6000000E+02	+4.3000000E+02	+4.5246728E+02
69.0	3	+3.9900000E+02	+1.1789826E+01	+4.0900000E+02	+3.8600000E+02	+4.4302392E+02
70.0	3	+3.9866650E+02	+1.8009256E+01	+4.1700000E+02	+3.8100000E+02	+4.4145019E+02
72.0	6	+5.5500000E+02	+4.7222875E+01	+6.2000000E+02	+4.8000000E+02	+4.3830249E+02
76.0	3	+3.5666650E+02	+1.5275252E+01	+3.7000000E+02	+3.4000000E+02	+4.3200708E+02
78.0	3	+4.1000000E+02	+9.9999999E+00	+4.2000000E+02	+4.0000000E+02	+4.2885937E+02
81.0	3	+4.3666650E+02	+6.0277137E+01	+5.0000000E+02	+3.8000000E+02	+4.2413769E+02
84.0	6	+3.9850000E+02	+1.8425525E+01	+4.3100000E+02	+3.8000000E+02	+4.1941601E+02
85.0	3	+3.1000000E+02	+9.9999999E+00	+3.2000000E+02	+3.0000000E+02	+4.1784228E+02
86.0	3	+3.5666650E+02	+3.2145502E+01	+3.8000000E+02	+3.2000000E+02	+4.1626831E+02
87.0	3	+6.5666650E+02	+8.9628864E+01	+7.6000000E+02	+6.0000000E+02	+4.1469458E+02
88.0	12	+3.4775000E+02	+6.5704745E+01	+4.4800000E+02	+2.7000000E+02	+4.1312060E+02
89.0	6	+5.9000000E+02	+5.7965506E+01	+6.5000000E+02	+5.2000000E+02	+4.1154687E+02
90.0	3	+4.5666650E+02	+2.0816659E+01	+4.8000000E+02	+4.4000000E+02	+4.0997290E+02
91.0	3	+3.5333325E+02	+1.1547005E+01	+3.6000000E+02	+3.4000000E+02	+4.0839916E+02
94.0	12	+4.8000000E+02	+1.5603030E+02	+8.8000000E+02	+3.2000000E+02	+4.0367749E+02
95.0	3	+5.3333325E+02	+2.3094010E+01	+5.6000000E+02	+5.2000000E+02	+4.0210376E+02
96.0	6	+5.0500000E+02	+2.8809720E+01	+5.5000000E+02	+4.7000000E+02	+4.0052978E+02
97.0	5	+3.8250000E+02	+3.4955686E+01	+4.2000000E+02	+3.3900000E+02	+3.9895605E+02
100.0	3	+2.4333332E+02	+1.1547005E+01	+2.5000000E+02	+2.3000000E+02	+3.9423437E+02
109.0	3	+3.5433325E+02	+1.3316656E+01	+3.6300000E+02	+3.3900000E+02	+3.8006958E+02
113.0	9	+2.9444433E+02	+3.4318767E+01	+3.6000000E+02	+2.5000000E+02	+3.7377416E+02
118.0	3	+3.5000000E+02	+1.7320508E+01	+3.6000000E+02	+3.3000000E+02	+3.6590478E+02

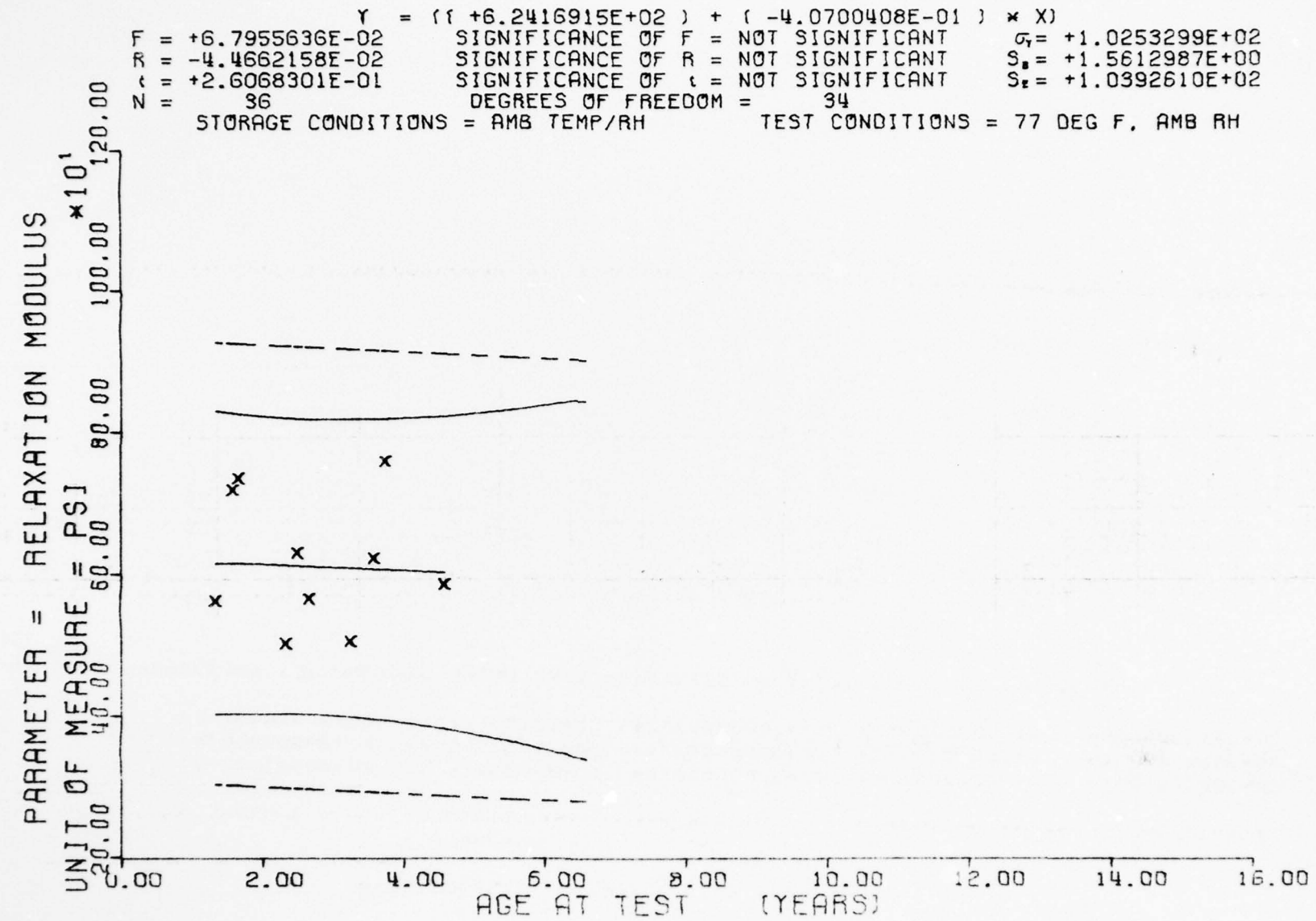
AN9 3066 PROPELLANT 'G' POLYMER UNLND CARTONS STRESS RELAX AT 1000 SEC 1% STRAIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
119.0	3	+2.7666650E+02	+5.7735026E+00	+2.8000000E+02	+2.7000000E+02	+3.6433105E+02
120.0	3	+4.0666650E+02	+2.8867513E+01	+4.4000000E+02	+3.9000000E+02	+3.6275708E+02
137.0	3	+2.6666650E+02	+5.7735026E+00	+2.7000000E+02	+2.6000000E+02	+3.3600146E+02

ANB 3066 PROPELLANT 'G' POLYMER UNLND CARTONS STRESS RELAX AT 1000 SEC 1% STRAIN



ANB 3066 PROPELLANT (ANB G POLYMER) RELAX MODULUS @ 10 SEC, 77 DEG, LINED, 1%

FIGURE 6-12

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
16.0	3	+5.6333325E+02	+2.5165114E+01	+5.9000000E+02	+5.4000000E+02	+6.1765698E+02
19.0	3	+7.2000000E+02	+4.5825756E+01	+7.7000000E+02	+6.8000000E+02	+6.1643603E+02
20.0	3	+7.3666650E+02	+3.7859388E+01	+7.8000000E+02	+7.1000000E+02	+6.1602905E+02
26.0	6	+5.0333325E+02	+7.7373552E+01	+6.2000000E+02	+4.1000000E+02	+6.1277294E+02
30.0	6	+6.3166650E+02	+4.7081489E+01	+6.9000000E+02	+5.7000000E+02	+6.1195898E+02
32.0	3	+5.6666650E+02	+6.0277137E+01	+6.3000000E+02	+5.1000000E+02	+6.1114501E+02
39.0	3	+5.9666650E+02	+5.7735026E+00	+5.1000000E+02	+5.0000000E+02	+6.0829589E+02
43.0	3	+6.2333325E+02	+3.7859388E+01	+6.5000000E+02	+5.8000000E+02	+6.0666796E+02
45.0	3	+7.6000000E+02	+1.3000000E+02	+8.9000000E+02	+6.3000000E+02	+6.0585375E+02
55.0	3	+5.8666650E+02	+5.1316014E+01	+6.3000000E+02	+5.3000000E+02	+6.0178369E+02

ANB 3066 PROPELLANT (ANB 6 POLYMER) RELAX MODULUS @ 10 SEC, 77 DEG, LINED, 1%

Y = ((+3.8674302E+02) + (+4.2186236E-01) * X)

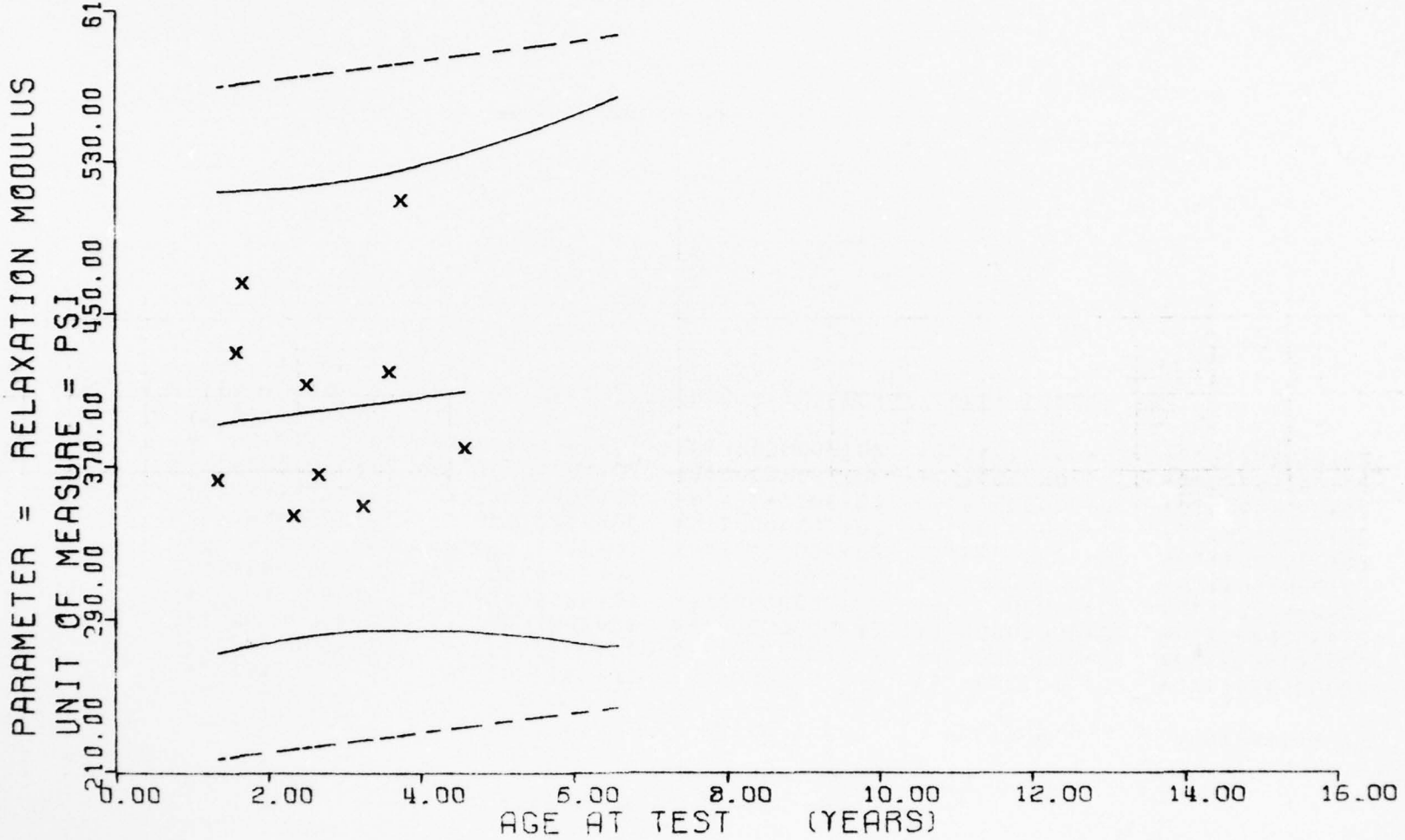
F = +2.2737981E-01 SIGNIFICANCE OF F = NOT SIGNIFICANT σ_1 = +5.8235291E+01

R = +8.1505914E-02 SIGNIFICANCE OF R = NOT SIGNIFICANT S_a = +8.8469755E-01

t = +4.7684359E-01 SIGNIFICANCE OF t = NOT SIGNIFICANT S_c = +5.8888901E+01

N = 36 DEGREES OF FREEDOM = 34

STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F. AMB RH



ANB 3066 PROPLLNT (ANB G POLYMER) RELAX MODULUS @ 1000 SEC, 77 DEG, LINED, 1%

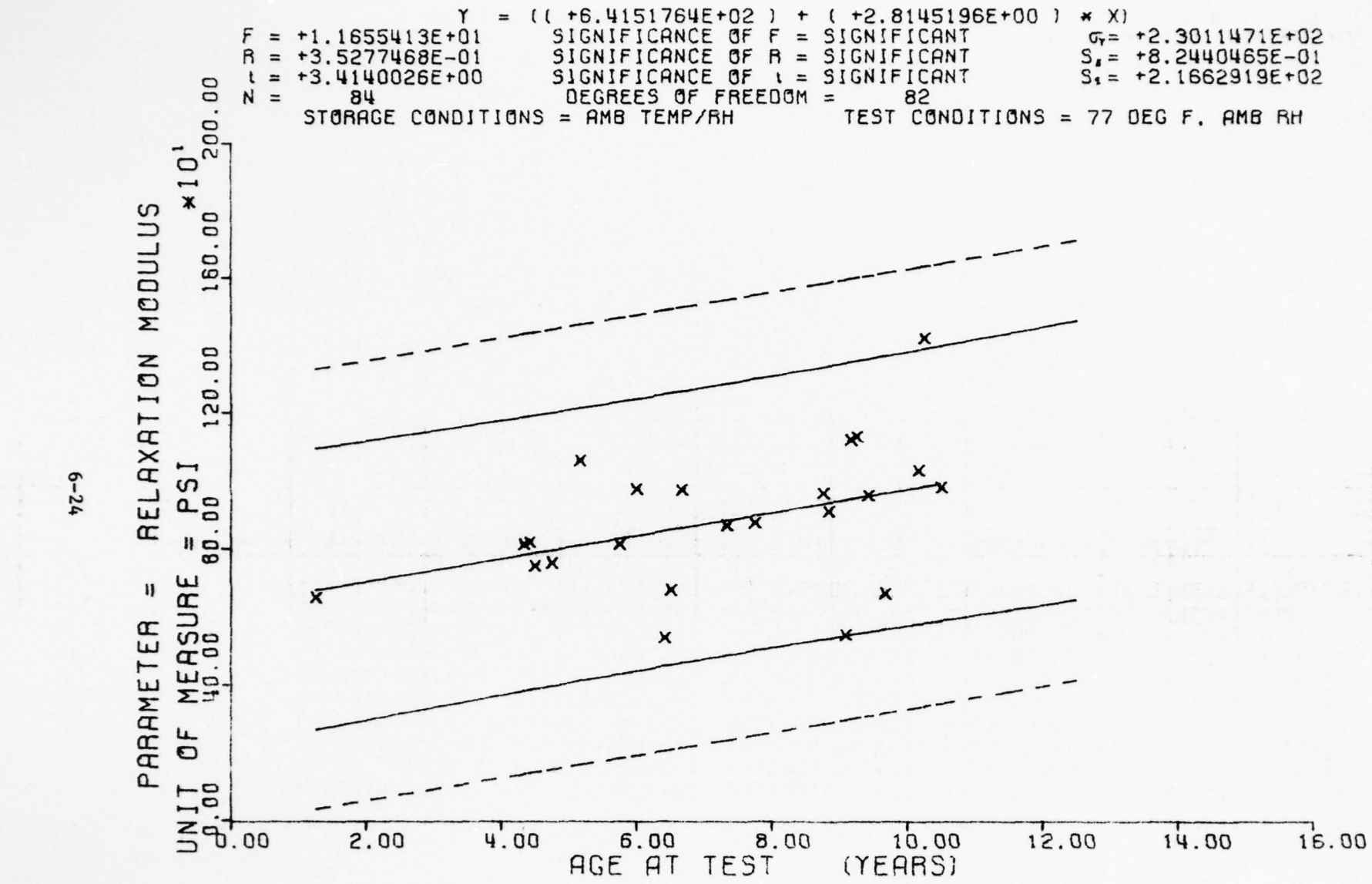
FIGUR 6-13

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
16.0	3	+3.6333325E+02	+2.3094010E+01	+3.9000000E+02	+3.5000000E+02	+3.9349267E+02
19.0	3	+4.3000000E+02	+1.7320508E+01	+4.5000000E+02	+4.2000000E+02	+3.9475830E+02
20.0	3	+4.5666650E+02	+2.8867513E+01	+5.0000000E+02	+4.5000000E+02	+3.9518017E+02
28.0	6	+3.4500000E+02	+4.3243496E+01	+4.1000000E+02	+2.9000000E+02	+3.9855493E+02
30.0	6	+4.1333325E+02	+2.7325202E+01	+4.4000000E+02	+3.8000000E+02	+3.9939868E+02
32.0	3	+3.6666650E+02	+4.0414518E+01	+4.1000000E+02	+3.3000000E+02	+4.0024243E+02
39.0	3	+3.5000000E+02	+9.9999999E+00	+3.6000000E+02	+3.4000000E+02	+4.0319555E+02
43.0	3	+4.2000000E+02	+0.0000000E+00	+4.2000000E+02	+4.2000000E+02	+4.0488305E+02
45.0	3	+5.1000000E+02	+6.5574385E+01	+5.8000000E+02	+4.5000000E+02	+4.0572680E+02
55.0	3	+3.8000000E+02	+2.6457513E+01	+4.0000000E+02	+3.5000000E+02	+4.0994531E+02

ANB 3066 PROPLLNT (ANB G POLYMER) RELAX MODULUS @ 1000 SEC, 77 DEG, LINED, 1%



ANB 3066 PROPELLANT (ANB, P POLYMER) RELAX MODULUS @ 10 SEC, UNLND CTNS, 1% STN

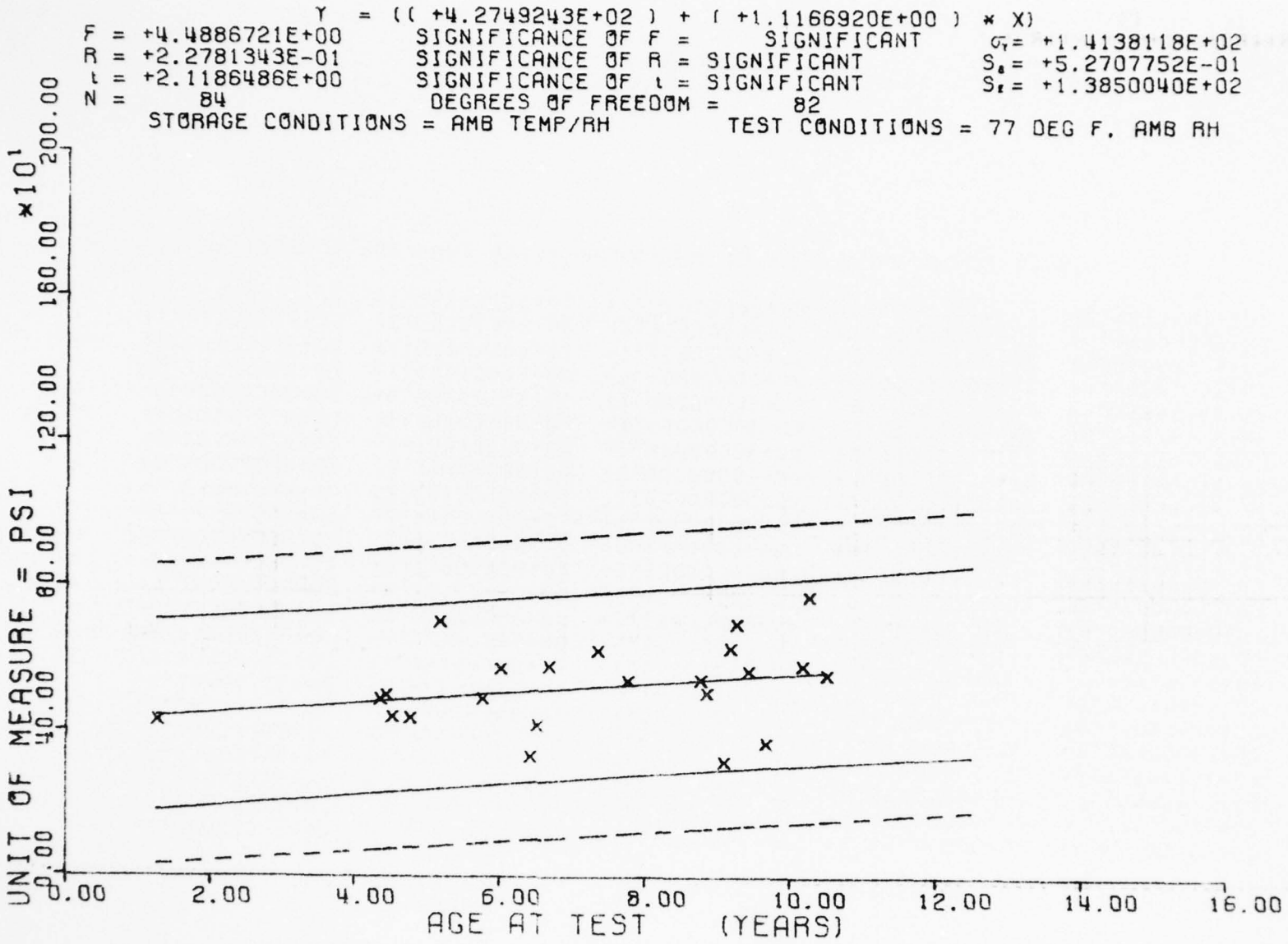
FIGURE 6-14

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	3	+6.6000000E+02	+6.0827625E+01	+7.3000000E+02	+6.2000000E+02	+6.8373535E+02
52.0	9	+8.1666650E+02	+1.9570385E+02	+1.1700000E+03	+4.9000000E+02	+7.8787255E+02
53.0	3	+8.2333325E+02	+1.6072751E+02	+9.4000000E+02	+6.4000000E+02	+7.9068701E+02
54.0	3	+7.5333325E+02	+5.6862407E+01	+8.0000000E+02	+6.9000000E+02	+7.9350170E+02
57.0	3	+7.6333325E+02	+6.8068592E+01	+8.4000000E+02	+7.1000000E+02	+8.0194506E+02
62.0	3	+1.0633332E+03	+3.0550504E+01	+1.0900000E+03	+1.0300000E+03	+8.1601782E+02
69.0	3	+8.1666650E+02	+8.6216781E+01	+9.1000000E+02	+7.4000000E+02	+8.3571948E+02
72.0	3	+9.8000000E+02	+2.9999999E+01	+1.0100000E+03	+9.5000000E+02	+8.4416284E+02
77.0	3	+5.4333325E+02	+5.7735026E+00	+5.5000000E+02	+5.4000000E+02	+8.5823559E+02
78.0	3	+6.8333325E+02	+3.0550504E+01	+7.1000000E+02	+6.5000000E+02	+8.6105004E+02
80.0	3	+9.7666650E+02	+1.1590225E+02	+1.1100000E+03	+9.0000000E+02	+8.6667919E+02
88.0	3	+8.7333325E+02	+2.7098585E+02	+1.1300000E+03	+5.9000000E+02	+8.8919531E+02
93.0	3	+8.8000000E+02	+2.9999999E+01	+9.1000000E+02	+8.5000000E+02	+9.0326782E+02
105.0	6	+9.6666650E+02	+1.9469634E+02	+1.2000000E+03	+7.1000000E+02	+9.3704199E+02
106.0	3	+9.1333325E+02	+2.1221058E+02	+1.1500000E+03	+7.4000000E+02	+9.3985668E+02
109.0	3	+5.5000000E+02	+0.0000000E+99	+5.5000000E+02	+5.5000000E+02	+9.4830004E+02
110.0	3	+1.1233332E+03	+1.7387735E+02	+1.3200000E+03	+9.9000000E+02	+9.5111474E+02
111.0	6	+1.1316665E+03	+1.7904375E+02	+1.4300000E+03	+9.3000000E+02	+9.5392919E+02
113.0	3	+9.6000000E+02	+4.5825756E+01	+1.0000000E+03	+9.1000000E+02	+9.5955834E+02
116.0	6	+6.7166650E+02	+1.8411047E+02	+9.9000000E+02	+4.9000000E+02	+9.6800170E+02
122.0	3	+1.0333332E+03	+7.5718777E+01	+1.1200000E+03	+9.8000000E+02	+9.8488891E+02
123.0	3	+1.4233332E+03	+1.0969655E+02	+1.5500000E+03	+1.3600000E+03	+9.8770336E+02
126.0	3	+9.8333325E+02	+4.0414518E+01	+1.0200000E+03	+9.4000000E+02	+9.9614697E+02

ANB 3066 PROPELLANT (ANB, P POLYMER) RELAX MODULUS @ 10 SEC, UNLNC CTNS, 1% STN



ANB 3066 PROPELLANT (ANB, P POLYMER) RELAX MODULUS @ 1000 SEC, UNLND CTNS, 1%

FIGURE 6-15

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	3	+4.3000000E+02	+3.4641016E+01	+4.7000000E+02	+4.1000000E+02	+4.4424267E+02
52.0	9	+4.8888867E+02	+1.1688075E+02	+6.9000000E+02	+2.8000000E+02	+4.8556030E+02
53.0	3	+5.0000000E+02	+1.1269427E+02	+5.7000000E+02	+3.7000000E+02	+4.8667700E+02
54.0	3	+4.4000000E+02	+4.3588989E+01	+4.7000000E+02	+3.9000000E+02	+4.8779370E+02
57.0	3	+4.3666650E+02	+4.7258156E+01	+4.9000000E+02	+4.0000000E+02	+4.9114379E+02
62.0	3	+7.0333325E+02	+2.8867513E+01	+7.2000000E+02	+6.7000000E+02	+4.9672729E+02
69.0	3	+4.9000000E+02	+6.0827625E+01	+5.6000000E+02	+4.5000000E+02	+5.0454418E+02
72.0	3	+5.7333325E+02	+2.8867513E+01	+5.9000000E+02	+5.4000000E+02	+5.0789404E+02
77.0	3	+3.3000000E+02	+0.0000000E+71	+3.3000000E+02	+3.3000000E+02	+5.1347753E+02
78.0	3	+4.1666650E+02	+5.7735026E+00	+4.2000000E+02	+4.1000000E+02	+5.1459423E+02
80.0	3	+5.8000000E+02	+7.8102496E+01	+6.7000000E+02	+5.3000000E+02	+5.1682763E+02
88.0	3	+6.2333325E+02	+2.6006409E+02	+8.8000000E+02	+3.6000000E+02	+5.2576123E+02
93.0	3	+5.4000000E+02	+1.9999999E+01	+5.6000000E+02	+5.2000000E+02	+5.3134472E+02
105.0	6	+5.4333325E+02	+1.1724617E+02	+6.9000000E+02	+3.8000000E+02	+5.4474487E+02
106.0	3	+5.0666650E+02	+1.1590225E+02	+6.4000000E+02	+4.3000000E+02	+5.4586157E+02
109.0	3	+3.1666650E+02	+5.7735026E+00	+3.2000000E+02	+3.1000000E+02	+5.4921166E+02
110.0	3	+6.3000000E+02	+1.1269427E+02	+7.6000000E+02	+5.6000000E+02	+5.5032836E+02
111.0	6	+6.9666650E+02	+1.3952299E+02	+9.3000000E+02	+5.3000000E+02	+5.5144506E+02
113.0	3	+5.6666650E+02	+2.5166114E+01	+5.9000000E+02	+5.4000000E+02	+5.5367846E+02
116.0	6	+3.6833325E+02	+9.8268340E+01	+5.5000000E+02	+2.8000000E+02	+5.5702856E+02
122.0	3	+5.8333325E+02	+4.9328828E+01	+6.4000000E+02	+5.5000000E+02	+5.6372875E+02
123.0	3	+7.7333325E+02	+4.9328828E+01	+8.3000000E+02	+7.4000000E+02	+5.6484545E+02
126.0	3	+5.5666650E+02	+4.0414518E+01	+6.0000000E+02	+5.2000000E+02	+5.6819555E+02

ANB 3066 PROPELLANT (ANB, P POLYMER) RELAX MODULUS @ 1000 SEC, UNLND CTNS, 1%

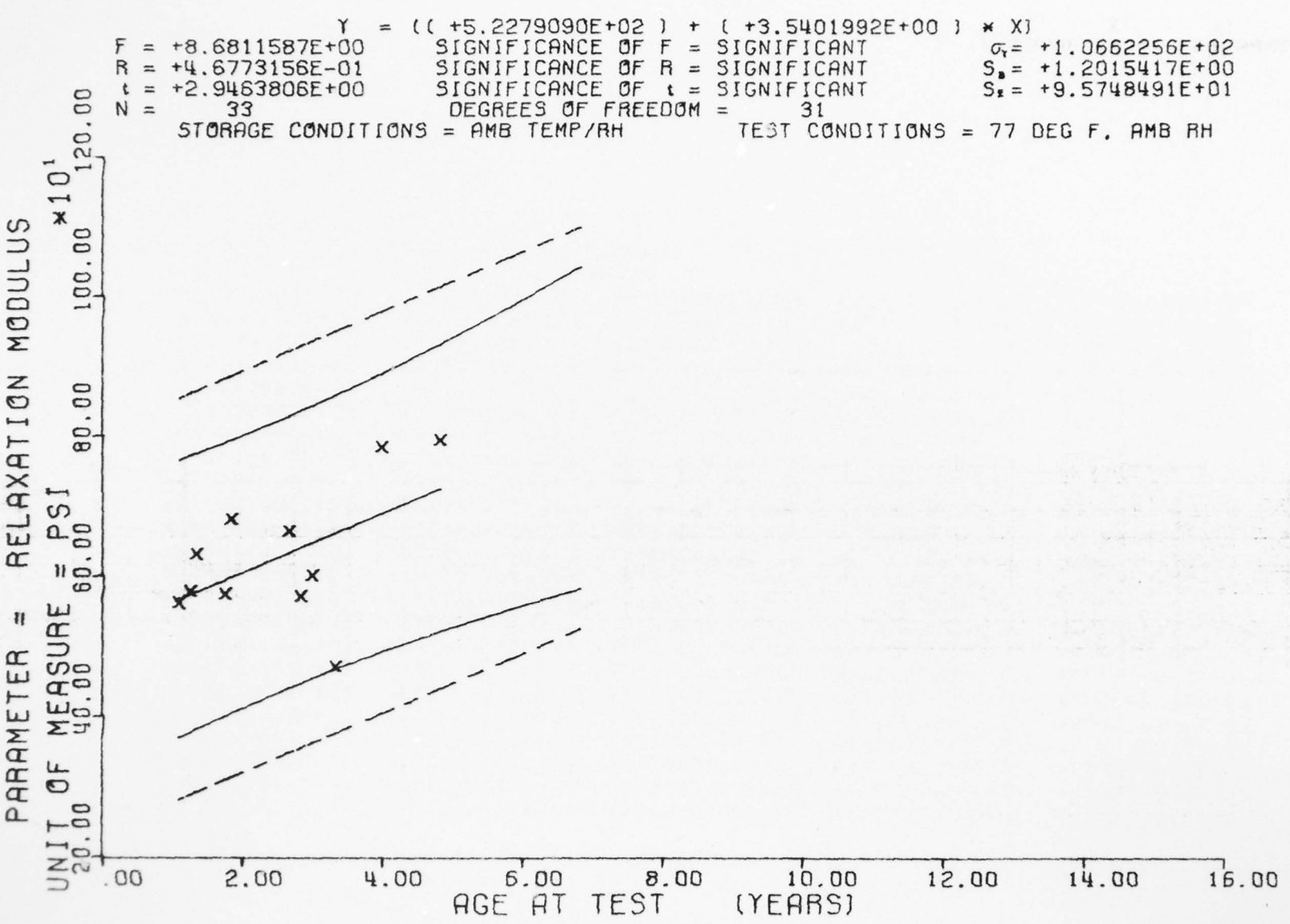
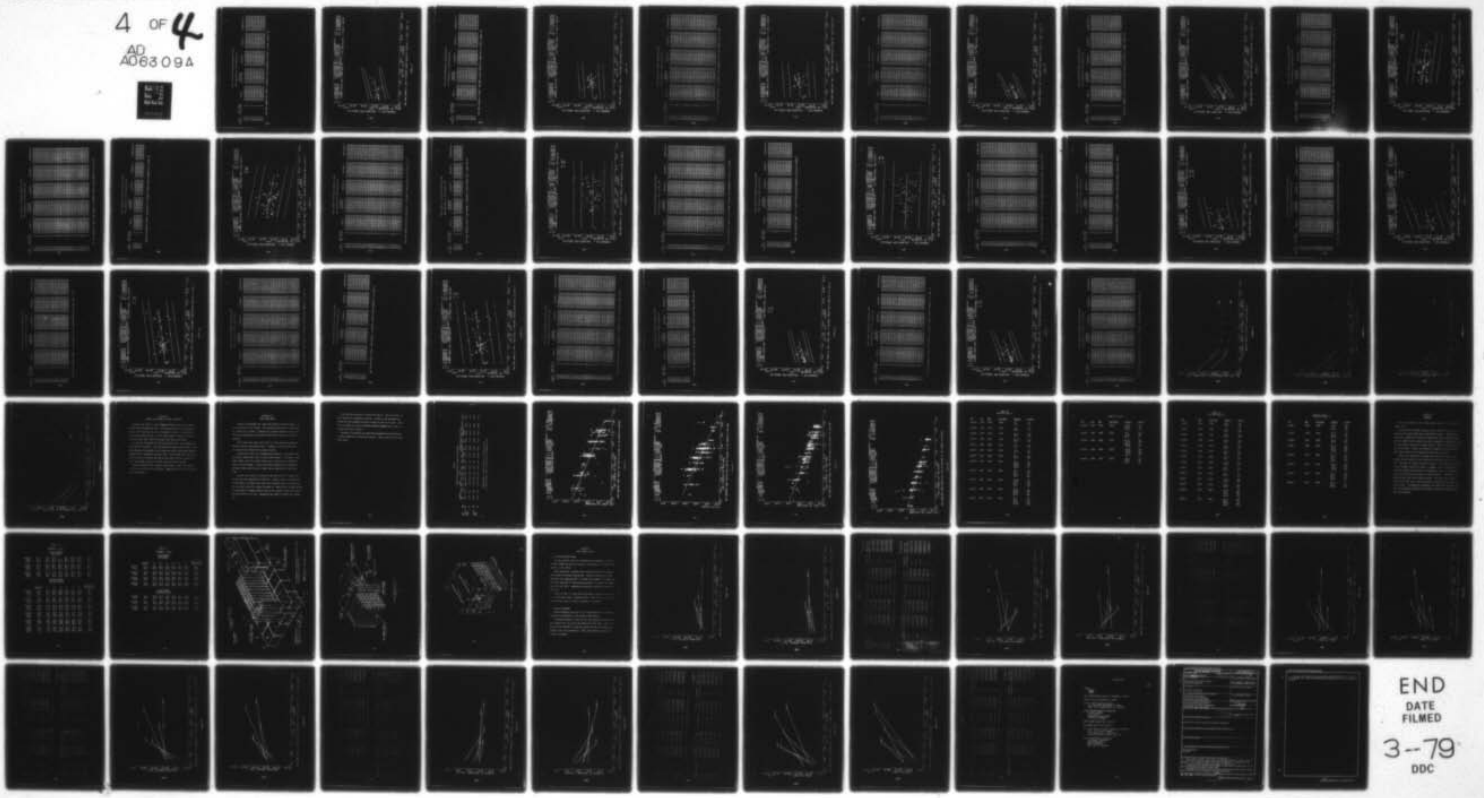

Y = ((+5.2279090E+02) + (+3.5401992E+00) * X)
F = +8.6811587E+00 SIGNIFICANCE OF F = SIGNIFICANT σ = +1.0662256E+02
R = +4.6773156E-01 SIGNIFICANCE OF R = SIGNIFICANT S = +1.2015417E+00
t = +2.9463806E+00 SIGNIFICANCE OF t = SIGNIFICANT S = +9.5748491E+01
N = 33 DEGREES OF FREEDOM = 31
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = RELAXATION MODULUS
UNIT OF MEASURE = PSI *10^1
120.00
100.00
80.00
60.00
40.00
20.00
.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPELLANT (ANB P POLYMER) RELAX MODULUS @ 10 SEC, 77 DEG, LINED, 1%

FIGURE 6-16

AD-A063 094 OGDEN AIR LOGISTICS CENTER HILL AFB UTAH PROPELLANT L--ETC F/G 21/9.2
PROPELLANT SURVEILLANCE REPORT ANB-3066 PROPELLANT.(U)
JUL 78 E M DALABA

UNCLASSIFIED MANCP-398(78) NL

4 OF 4
AD
A063094



END
DATE FILMED
3-79
DDC

4 OF 4

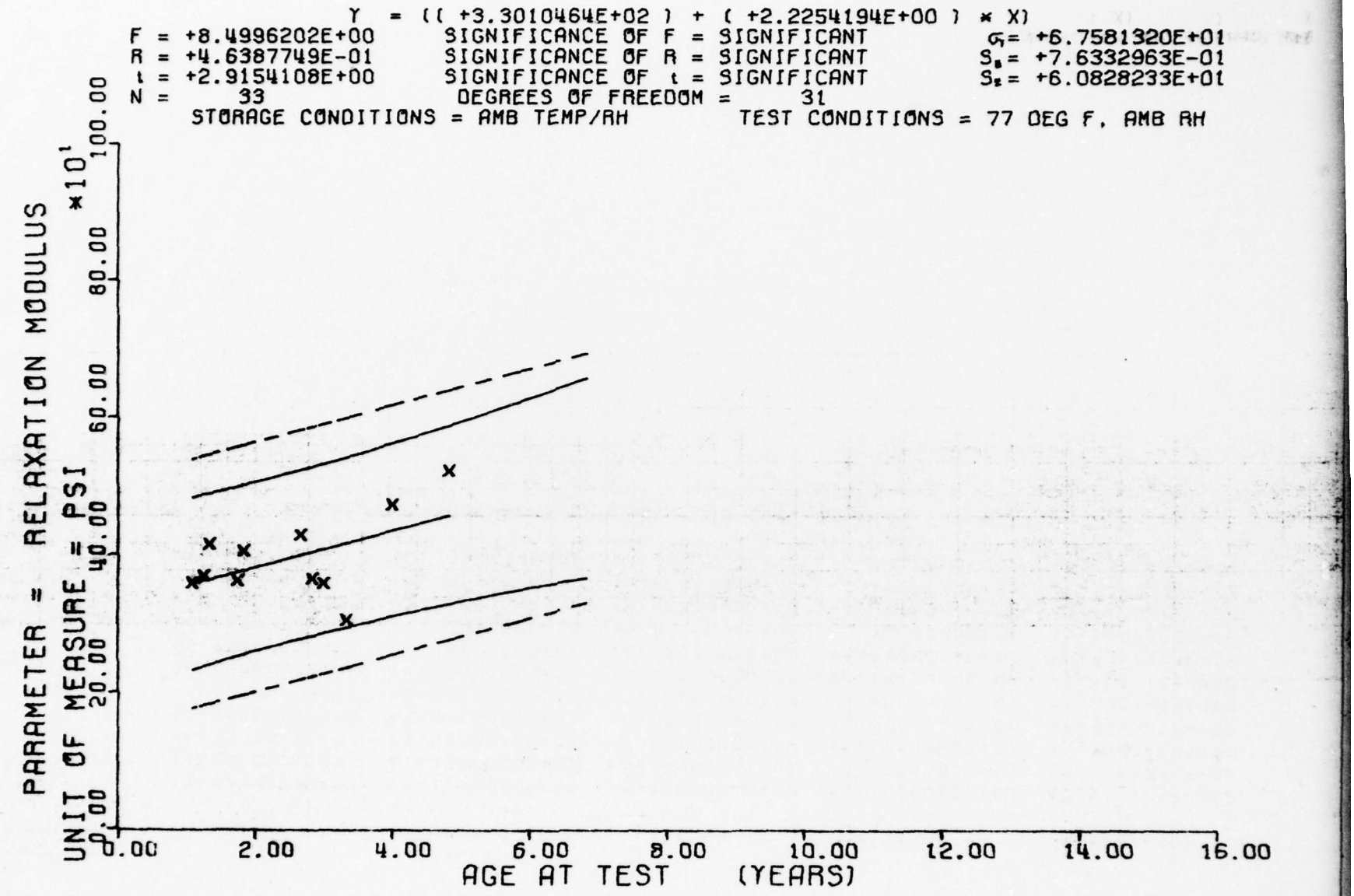
AD
A063094

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+5.6333325E+02	+4.1633319E+01	+6.1000000E+02	+5.3000000E+02	+5.6881347E+02
15.0	3	+5.8000000E+02	+1.7320508E+01	+6.0000000E+02	+5.7000000E+02	+5.7589379E+02
16.0	3	+6.3333325E+02	+1.0692676E+02	+7.0000000E+02	+5.1000000E+02	+5.7943408E+02
21.0	3	+5.7666650E+02	+2.0816659E+01	+6.0000000E+02	+5.6000000E+02	+5.9713500E+02
22.0	3	+6.8333325E+02	+2.0816659E+01	+7.0000000E+02	+6.6000000E+02	+6.0067504E+02
32.0	3	+6.6666650E+02	+4.7258156E+01	+7.2000000E+02	+6.3000000E+02	+6.3607714E+02
34.0	3	+5.7333325E+02	+1.5275252E+01	+5.9000000E+02	+5.6000000E+02	+6.4315747E+02
36.0	3	+6.0333325E+02	+8.0208062E+01	+6.8000000E+02	+5.2000000E+02	+6.5023803E+02
40.0	3	+4.7333325E+02	+7.5055534E+01	+5.6000000E+02	+4.3000000E+02	+6.6439868E+02
48.0	3	+7.8666650E+02	+9.2915732E+01	+8.5000000E+02	+6.8000000E+02	+6.9272045E+02
58.0	3	+7.9666650E+02	+4.7258156E+01	+8.5000000E+02	+7.6000000E+02	+7.2812231E+02

ANB 3066 PROPELLANT (ANB P POLYMER) RELAX MODULUS @ 10 SEC, 77 DEG, LINED, 1%



ANB 3066 PROPLLNT (ANB P POLYMER) RELAX MODULUS @ 1000 SEC, 77 DEG, LINED, 1%

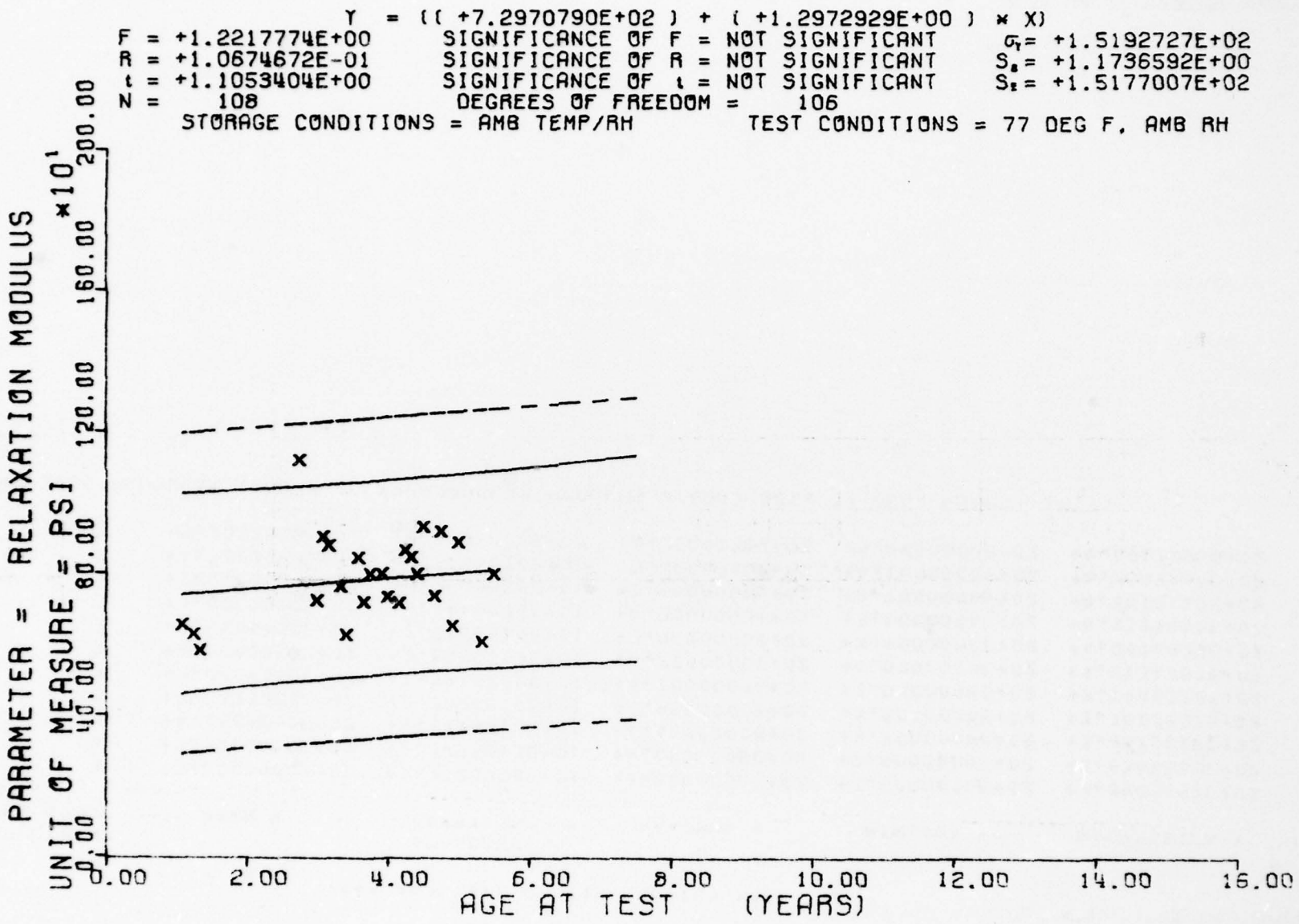
FIGURE 6-17

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+3.6000000E+02	+1.7320508E+01	+3.8000000E+02	+3.5000000E+02	+3.5903491E+02
15.0	3	+3.7000000E+02	+2.6457513E+01	+4.0000000E+02	+3.5000000E+02	+3.6348583E+02
16.0	3	+4.1666650E+02	+4.0414518E+01	+4.4000000E+02	+3.7000000E+02	+3.6571118E+02
21.0	3	+3.6333325E+02	+2.3094010E+01	+3.9000000E+02	+3.5000000E+02	+3.7683837E+02
22.0	3	+4.0666650E+02	+1.5275252E+01	+4.2000000E+02	+3.9000000E+02	+3.7906372E+02
32.0	3	+4.3000000E+02	+3.6055512E+01	+4.7000000E+02	+4.0000000E+02	+4.0131787E+02
34.0	3	+3.6666650E+02	+2.5166114E+01	+3.9000000E+02	+3.4000000E+02	+4.0576879E+02
36.0	3	+3.6000000E+02	+6.2449979E+01	+4.3000000E+02	+3.1000000E+02	+4.1021972E+02
40.0	3	+3.0666650E+02	+6.3508529E+01	+3.8000000E+02	+2.7000000E+02	+4.1912133E+02
48.0	3	+4.7333325E+02	+6.5064070E+01	+5.4000000E+02	+4.1000000E+02	+4.3692456E+02
58.0	3	+5.2333325E+02	+5.7735026E+00	+5.3000000E+02	+5.2000000E+02	+4.5917895E+02

ANB 3066 PROPELLNT (ANB P POLYMER) RELAX MODULUS @ 1000 SEC. 77 DEG. LINED. 1%



ANB 3066 PROPELLANT (ANT, P POLYMER) RELAX MODULUS @ 10 SEC, UNLND CTNS, 1% STN

FIGURE 6-18

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+6.6000000E+02	+3.6055512E+01	+7.0000000E+02	+6.3000000E+02	+7.4657250E+02
15.0	3	+6.3333325E+02	+2.5166114E+01	+6.6000000E+02	+6.1000000E+02	+7.4916723E+02
16.0	3	+5.8666650E+02	+2.5166114E+01	+6.1000000E+02	+5.6000000E+02	+7.5046435E+02
33.0	3	+1.1233332E+03	+4.1633319E+01	+1.1700000E+03	+1.0900000E+03	+7.7251855E+02
36.0	6	+7.2666650E+02	+7.6594168E+01	+8.2000000E+02	+6.4000000E+02	+7.7641040E+02
37.0	6	+9.0833325E+02	+1.4190372E+02	+1.0700000E+03	+7.3000000E+02	+7.7770751E+02
38.0	3	+8.8333325E+02	+1.5275252E+01	+9.0000000E+02	+8.7000000E+02	+7.7900488E+02
40.0	3	+7.6666650E+02	+1.0785793E+02	+8.9000000E+02	+6.9000000E+02	+7.8159960E+02
41.0	3	+6.3000000E+02	+2.6457513E+01	+6.5000000E+02	+6.0000000E+02	+7.8289672E+02
43.0	9	+8.4888867E+02	+1.2868998E+02	+1.0000000E+03	+6.5000000E+02	+7.8549145E+02
44.0	6	+7.2333325E+02	+8.2138095E+01	+8.6000000E+02	+6.2000000E+02	+7.8678857E+02
45.0	6	+8.0166650E+02	+1.3511723E+02	+9.5000000E+02	+6.7000000E+02	+7.8808593E+02
47.0	6	+8.0333325E+02	+3.7771241E+01	+8.6000000E+02	+7.6000000E+02	+7.9068066E+02
48.0	6	+7.3833325E+02	+6.7946057E+01	+8.5000000E+02	+6.7000000E+02	+7.9197778E+02
50.0	3	+7.2000000E+02	+9.1651513E+01	+8.0000000E+02	+6.2000000E+02	+7.9457250E+02
51.0	3	+8.7000000E+02	+7.8102496E+01	+9.6000000E+02	+8.2000000E+02	+7.9586962E+02
52.0	3	+8.5000000E+02	+5.2915026E+01	+8.9000000E+02	+7.9000000E+02	+7.9716699E+02
53.0	6	+8.0166650E+02	+1.8476110E+02	+9.9000000E+02	+5.4000000E+02	+7.9846435E+02
54.0	6	+9.3500000E+02	+1.8338484E+02	+1.1500000E+03	+7.5000000E+02	+7.9976171E+02
56.0	3	+7.4000000E+02	+1.1789825E+02	+8.7000000E+02	+6.4000000E+02	+8.0235620E+02
57.0	3	+9.2333325E+02	+8.5049005E+01	+1.0200000E+03	+8.6000000E+02	+8.0365356E+02
59.0	3	+6.5666650E+02	+4.1633319E+01	+6.9000000E+02	+6.1000000E+02	+8.0624804E+02
60.0	3	+8.3333325E+02	+5.6862407E+01	+9.4000000E+02	+8.3000000E+02	+8.0754541E+02
64.0	6	+6.1166650E+02	+1.1356349E+02	+7.4000000E+02	+4.9000000E+02	+8.1273461E+02
69.0	3	+8.0333325E+02	+2.7300793E+02	+9.9000000E+02	+4.9000000E+02	+8.1532910E+02

ANB 3066 PROPELLANT (ANT. P POLYMER) RELAX MODULUS @ 10 SEC, UNLND CTNS, 1% STN

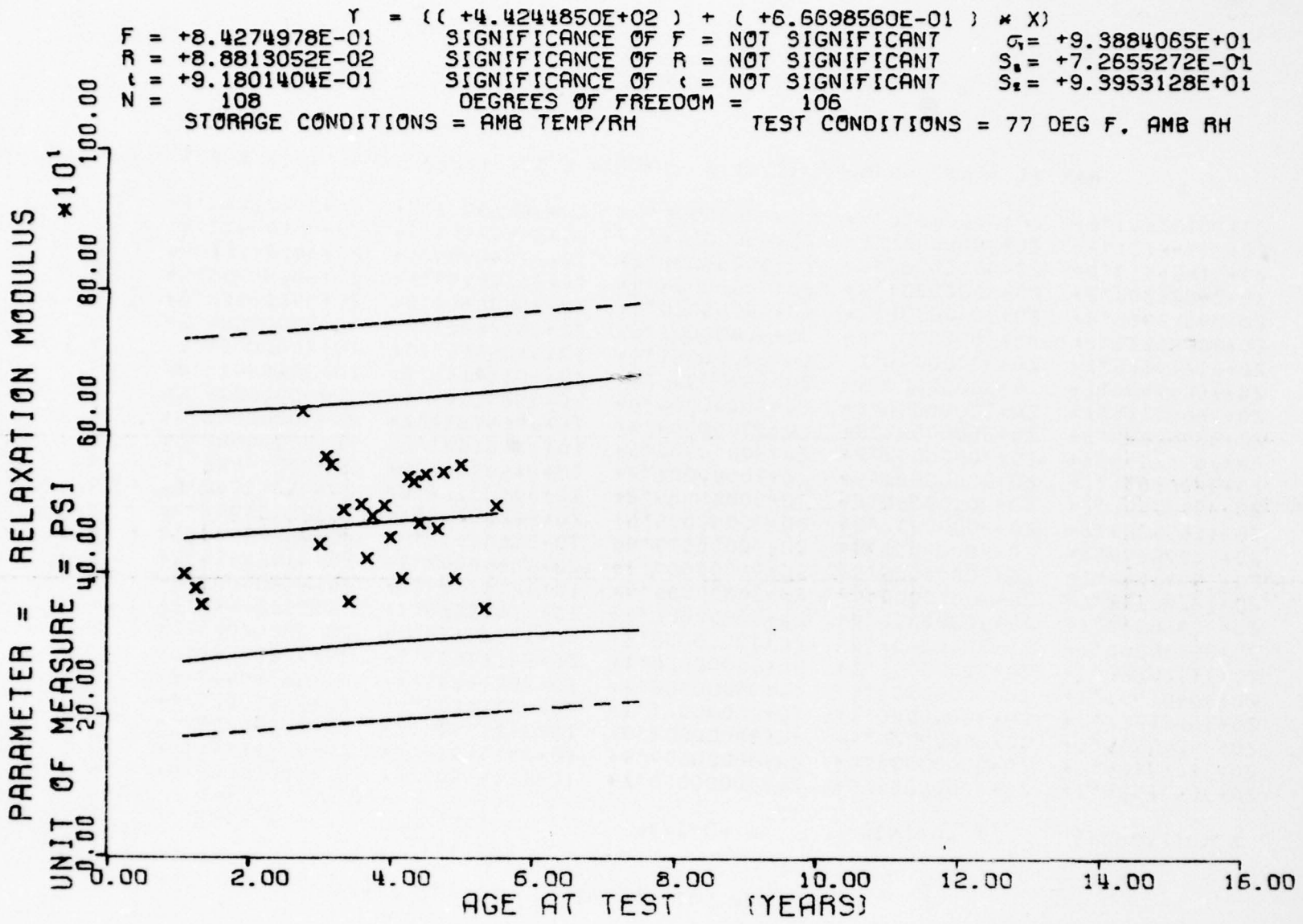

Y = ((+4.4244850E+02) + (+6.6698560E-01) * X)
F = +8.4274978E-01 SIGNIFICANCE OF F = NOT SIGNIFICANT σ1 = +9.3884065E+01
R = +8.8813052E-02 SIGNIFICANCE OF R = NOT SIGNIFICANT Sa = +7.2655272E-01
t = +9.1801404E-01 SIGNIFICANCE OF t = NOT SIGNIFICANT Se = +9.3953128E+01
N = 108 DEGREES OF FREEDOM = 106
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = RELAXATION MODULUS
UNIT OF MEASURE = PSI *10¹
100.00
80.00
60.00
40.00
20.00
0.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPELLANT (ANT, P POLYMER) RELAX MODULUS @ 1000 SEC, UNLND CTNS 1% ST

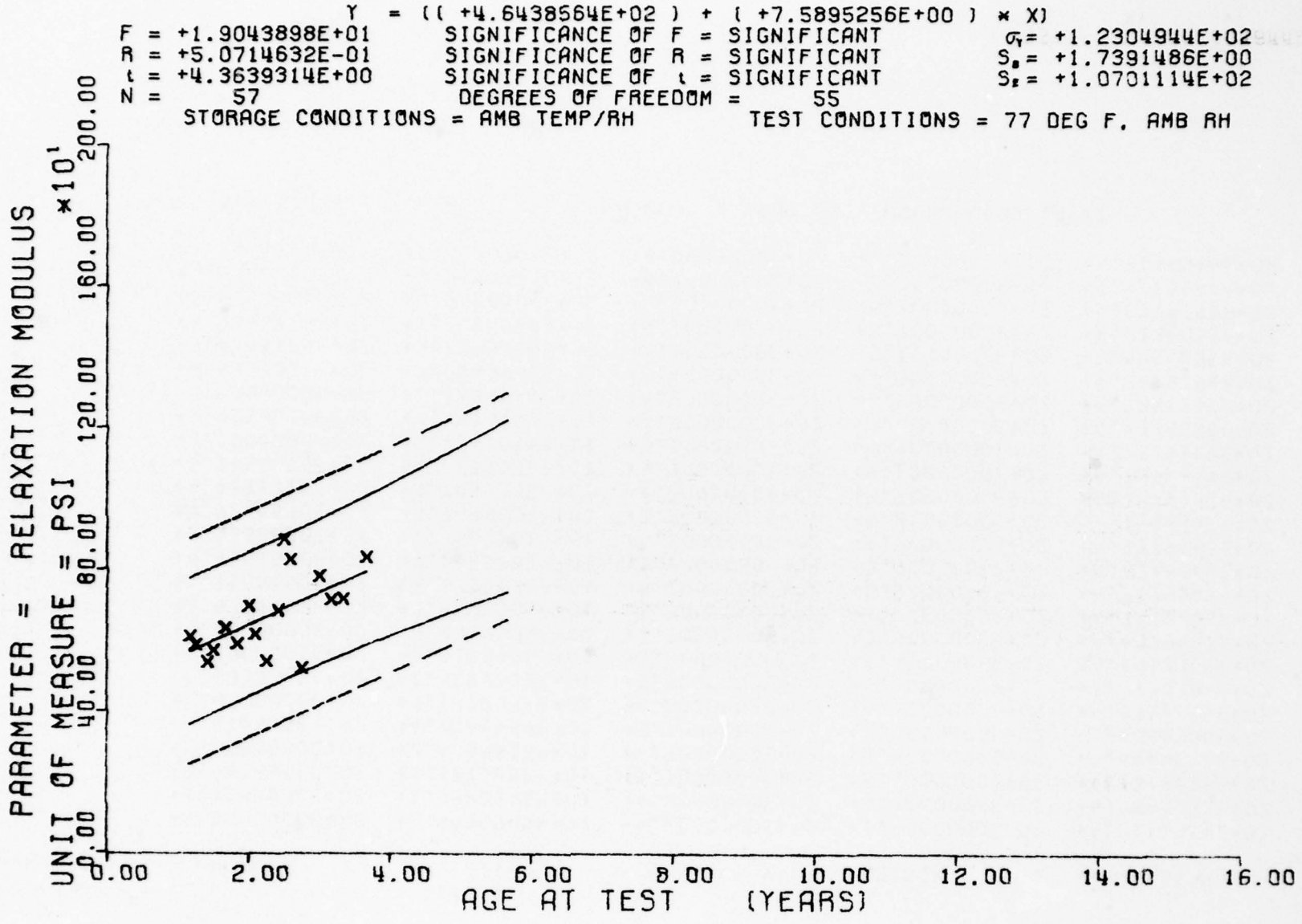
FIGURE 6-19

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+4.0000000E+02	+1.9999999E+01	+4.2000000E+02	+3.8000000E+02	+4.5111914E+02
15.0	3	+3.8000000E+02	+1.7320508E+01	+4.0000000E+02	+3.7000000E+02	+4.5245312E+02
16.0	3	+3.5666650E+02	+1.5275252E+01	+3.7000000E+02	+3.4000000E+02	+4.5312011E+02
33.0	3	+6.3000000E+02	+3.6055512E+01	+6.7000000E+02	+6.0000000E+02	+4.6445898E+02
36.0	6	+4.4166650E+02	+4.7081489E+01	+5.1000000E+02	+3.9000000E+02	+4.6645996E+02
37.0	6	+5.6500000E+02	+9.1378334E+01	+6.6000000E+02	+4.5000000E+02	+4.6712695E+02
38.0	3	+5.5333325E+02	+1.5275252E+01	+5.7000000E+02	+5.4000000E+02	+4.6779394E+02
40.0	3	+4.9000000E+02	+7.8102496E+01	+5.8000000E+02	+4.4000000E+02	+4.6912768E+02
41.0	3	+3.6000000E+02	+9.9999999E+00	+3.7000000E+02	+3.5000000E+02	+4.6979467E+02
43.0	9	+4.9777758E+02	+7.8386506E+01	+5.7000000E+02	+3.7000000E+02	+4.7112866E+02
44.0	6	+4.2166650E+02	+6.1779176E+01	+5.2000000E+02	+3.5000000E+02	+4.7179565E+02
45.0	6	+4.8166650E+02	+9.0645830E+01	+5.8000000E+02	+3.9000000E+02	+4.7246264E+02
47.0	6	+4.9666650E+02	+1.3662601E+01	+5.2000000E+02	+4.8000000E+02	+4.7379663E+02
48.0	6	+4.5166650E+02	+3.7638632E+01	+5.2000000E+02	+4.2000000E+02	+4.7446362E+02
50.0	3	+3.9333325E+02	+3.7859388E+01	+4.2000000E+02	+3.5000000E+02	+4.7579760E+02
51.0	3	+5.3666650E+02	+4.6188021E+01	+5.9000000E+02	+5.1000000E+02	+4.7646459E+02
52.0	3	+5.3000000E+02	+3.4641016E+01	+5.5000000E+02	+4.9000000E+02	+4.7713159E+02
53.0	6	+4.7166650E+02	+9.5376447E+01	+5.7000000E+02	+3.3000000E+02	+4.7779858E+02
54.0	6	+5.4000000E+02	+1.3356546E+02	+6.9000000E+02	+3.9000000E+02	+4.7846557E+02
56.0	3	+4.6333325E+02	+7.0945988E+01	+5.4000000E+02	+4.0000000E+02	+4.7979956E+02
57.0	3	+5.4333325E+02	+5.7735026E+01	+6.1000000E+02	+5.1000000E+02	+4.8046655E+02
59.0	3	+3.9333325E+02	+2.0816659E+01	+4.1000000E+02	+3.7000000E+02	+4.8180053E+02
60.0	3	+5.5333325E+02	+4.0560504E+01	+5.8000000E+02	+5.2000000E+02	+4.8246752E+02
64.0	6	+3.5166650E+02	+7.5476263E+01	+4.3000000E+02	+2.7000000E+02	+4.8513549E+02
68.0	3	+4.9666650E+02	+1.5196707E+02	+6.0000000E+02	+3.1000000E+02	+4.8646948E+02

AGB 3066 PROPELLANT (ANT, P POLYMER) RELAX MODULUS @ 1000 SEC, UNLND CTNS 1% ST



ANB 3066 PROPLLNT (ANT P POLYMER) RELAX MODULUS @ 10 SEC, 77 DEG, LINED, 1%

FIGURE 6-20

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
14.0	3	+6.1333325E+02	+4.0414518E+01	+6.5000000E+02	+5.7000000E+02	+5.7063861E+02
15.0	1	+5.9000000E+02	+0.0000000E+07	+5.9000000E+02	+5.9000000E+02	+5.7822851E+02
17.0	3	+5.4000000E+02	+4.3588989E+01	+5.9000000E+02	+5.1000000E+02	+5.9340747E+02
18.0	3	+5.7333325E+02	+1.1547005E+01	+5.8000000E+02	+5.6000000E+02	+6.0095707E+02
20.0	6	+6.3666650E+02	+1.2027745E+02	+7.9000000E+02	+5.1000000E+02	+6.1617602E+02
22.0	3	+5.9333325E+02	+3.0550504E+01	+6.2000000E+02	+5.6000000E+02	+6.3135498E+02
24.0	3	+7.0000000E+02	+3.4641016E+01	+7.4000000E+02	+6.8000000E+02	+6.4653417E+02
25.0	3	+6.2000000E+02	+4.3588989E+01	+6.5000000E+02	+5.7000000E+02	+6.5412377E+02
27.0	3	+5.4333325E+02	+5.7735026E+00	+5.5000000E+02	+5.4000000E+02	+6.6930273E+02
29.0	8	+6.8625000E+02	+1.0568653E+02	+8.2000000E+02	+5.3000000E+02	+6.8448168E+02
30.0	3	+8.8666650E+02	+6.0277137E+01	+9.5000000E+02	+8.3000000E+02	+6.9207128E+02
31.0	3	+8.3000000E+02	+6.5574385E+01	+9.0000000E+02	+7.7000000E+02	+6.9966088E+02
33.0	3	+5.2333325E+02	+1.5307950E+02	+7.0000000E+02	+4.3000000E+02	+7.1483984E+02
36.0	3	+7.8333325E+02	+3.5118845E+01	+8.2000000E+02	+7.5000000E+02	+7.3760839E+02
38.0	3	+7.1666650E+02	+3.5118845E+01	+7.5000000E+02	+6.8000000E+02	+7.5278759E+02
40.0	3	+7.2000000E+02	+4.9999999E+01	+7.7000000E+02	+6.7000000E+02	+7.6796655E+02
44.0	3	+8.3666650E+02	+7.7674534E+01	+9.0000000E+02	+7.5000000E+02	+7.9832470E+02

ANB 3066 PROPLLNT (ANT P POLYMER) RELAX MODULUS @ 10 SEC, 77 DEG, LINED, 1%

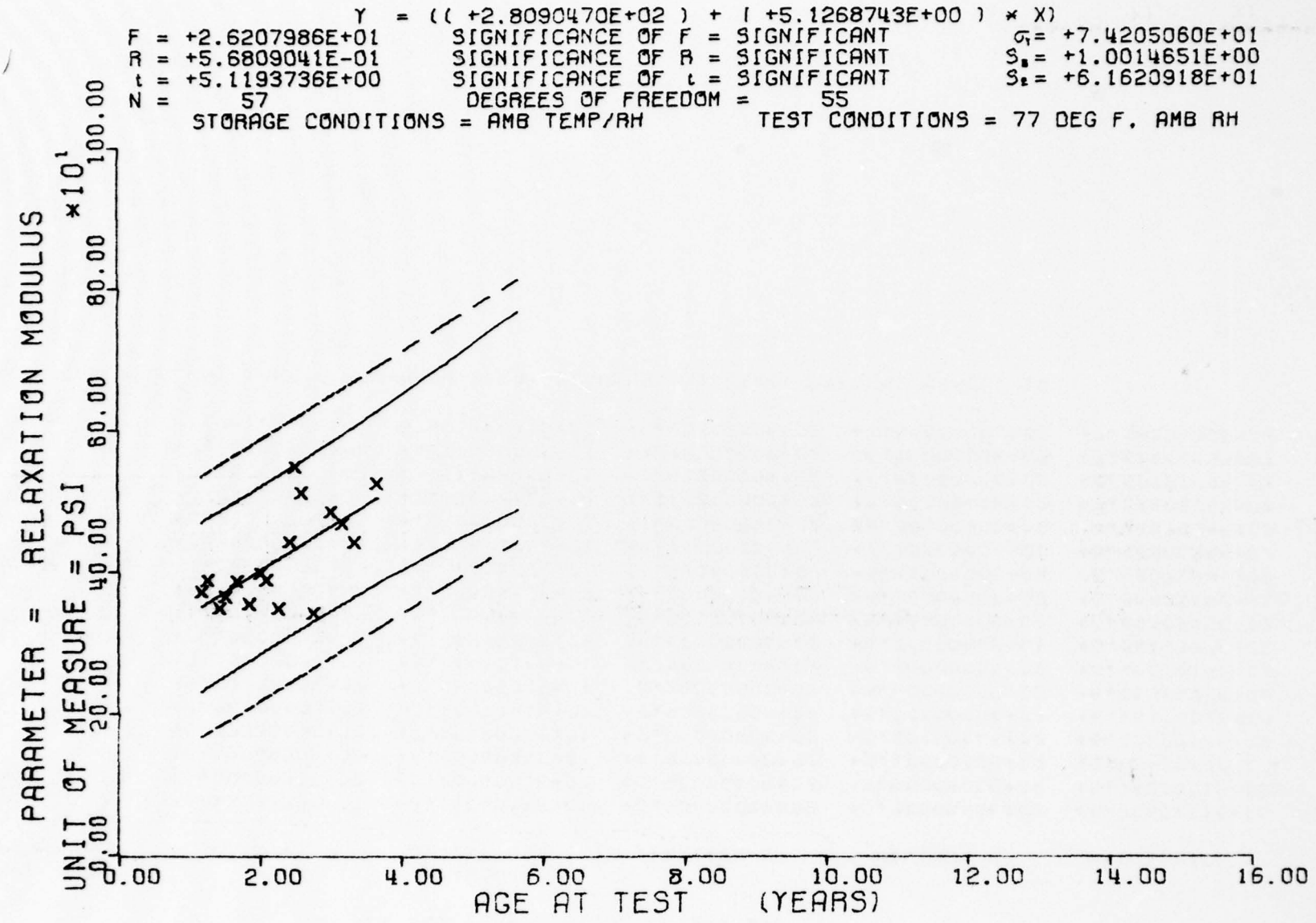

Y = ((+2.8090470E+02) + (+5.1268743E+00) * X)
F = +2.6207986E+01 SIGNIFICANCE OF F = SIGNIFICANT σT = +7.4205060E+01
R = +5.6809041E-01 SIGNIFICANCE OF R = SIGNIFICANT SB = +1.0014651E+00
t = +5.1193736E+00 SIGNIFICANCE OF t = SIGNIFICANT SE = +6.1620918E+01
N = 57 DEGREES OF FREEDOM = 55
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = 77 DEG F, AMB RH
PARAMETER = RELAXATION MODULUS
UNIT OF MEASURE = PSI *10¹
100.00
80.00
60.00
40.00
20.00
0.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPLLNT (ANT P POLYMER) RELAX MODULUS @ 1000 SEC, 77 DEG, LINED, 1%

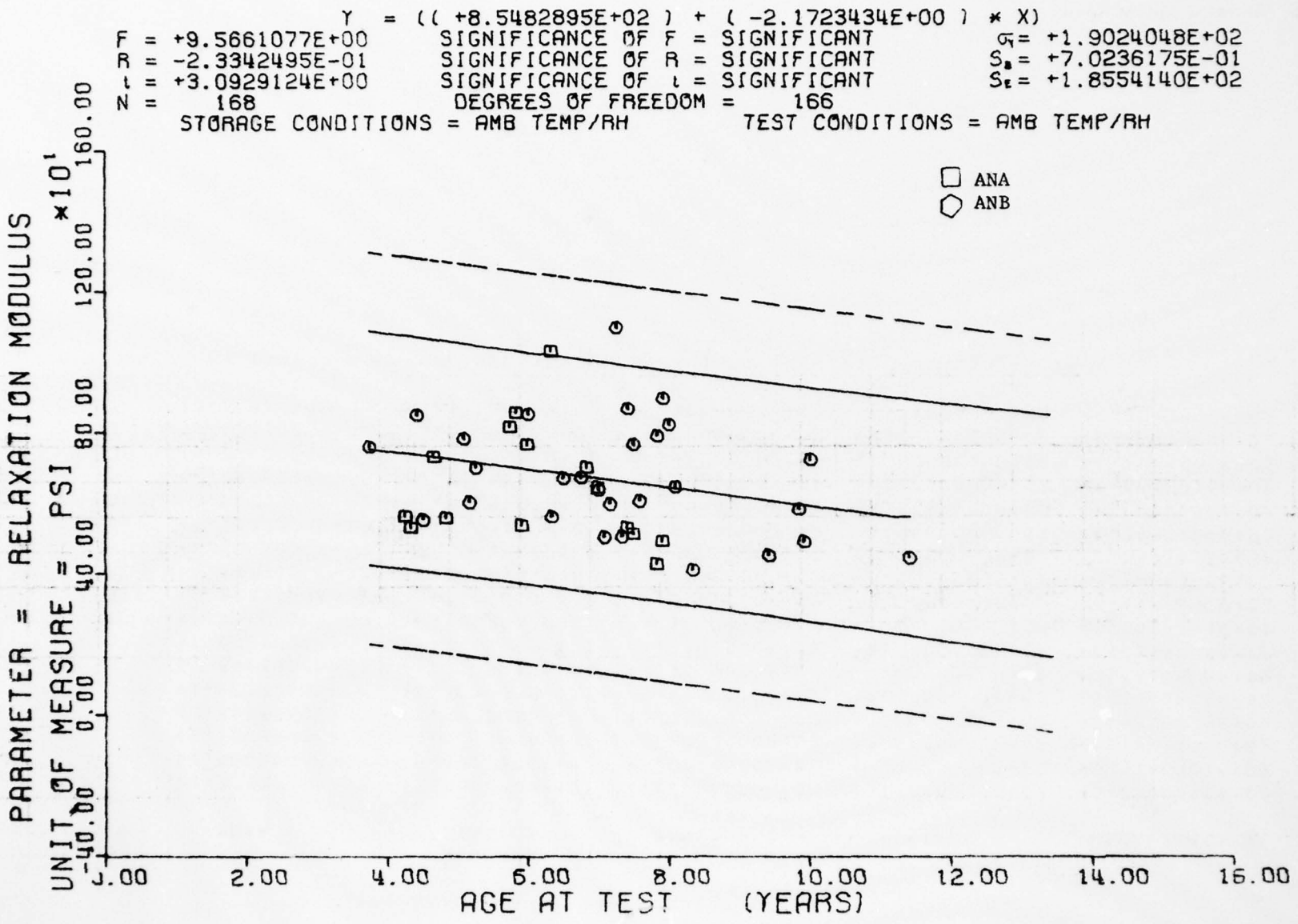
FIGURE 6-21

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
14.0	3	+3.7333325E+02	+3.0550504E+01	+4.0000000E+02	+3.4000000E+02	+3.5268050E+02
15.0	1	+3.9000000E+02	+0.0000000E+07	+3.9000000E+02	+3.9000000E+02	+3.5780761E+02
17.0	3	+3.5000000E+02	+2.9999999E+01	+3.8000000E+02	+3.2000000E+02	+3.6806152E+02
19.0	3	+3.6666650E+02	+5.7735026E+00	+3.7000000E+02	+3.6000000E+02	+3.7318823E+02
21.0	6	+3.8833325E+02	+4.4007575E+01	+4.4000000E+02	+3.4000000E+02	+3.8344213E+02
22.0	3	+3.8666650E+02	+1.5275252E+01	+3.7000000E+02	+3.4000000E+02	+3.8369580E+02
24.0	3	+4.0000000E+02	+1.9999999E+01	+4.2000000E+02	+3.8000000E+02	+4.0394946E+02
25.0	3	+3.9000000E+02	+2.6457513E+01	+4.1000000E+02	+3.6000000E+02	+4.0907641E+02
27.0	3	+3.5000000E+02	+0.0000000E+35	+3.5000000E+02	+3.5000000E+02	+4.1933007E+02
29.0	8	+4.4375000E+02	+6.9680392E+01	+5.3000000E+02	+3.5000000E+02	+4.2958398E+02
30.0	3	+5.5000000E+02	+2.9999999E+01	+5.8000000E+02	+5.2000000E+02	+4.3471093E+02
31.0	3	+5.1333325E+02	+4.5092497E+01	+5.6000000E+02	+4.7000000E+02	+4.3983764E+02
33.0	3	+3.4333325E+02	+1.0115993E+02	+4.6000000E+02	+2.8000000E+02	+4.5009155E+02
36.0	3	+4.8666650E+02	+2.5166114E+01	+5.1000000E+02	+4.6000000E+02	+4.6547216E+02
38.0	3	+4.7000000E+02	+1.9999999E+01	+4.9000000E+02	+4.5000000E+02	+4.7572583E+02
40.0	3	+4.4333325E+02	+3.0550504E+01	+4.7000000E+02	+4.1000000E+02	+4.8597949E+02
44.0	3	+5.2666650E+02	+5.1316014E+01	+5.7000000E+02	+4.7000000E+02	+5.0648706E+02

ANB 3066 PROPLLNT (ANT P POLYMER) RELAX MODULUS @ 1000 SEC, 77 DEG, LINED, 1%



ANB 3066 PROPLLNT (ANA & ANB UNLND, G POLYMER) STRESS RELAX MODULUS @ 10 SEC 1%

FIGURE 6-22

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
45.0	3	+7.6000000E+02	+5.5677643E+01	+8.1000000E+02	+7.0000000E+02	+7.5707348E+02
51.0	6	+5.6333325E+02	+9.2448183E+01	+6.8000000E+02	+4.5000000E+02	+7.4403930E+02
52.0	3	+5.3000000E+02	+4.9999999E+01	+5.8000000E+02	+4.8000000E+02	+7.4186694E+02
53.0	6	+8.5000000E+02	+1.7251086E+02	+1.0400000E+03	+6.6000000E+02	+7.3969458E+02
54.0	3	+5.5333325E+02	+1.1547005E+01	+5.6000000E+02	+5.4000000E+02	+7.3752221E+02
56.0	6	+7.3166650E+02	+2.3945076E+02	+1.0400000E+03	+4.7000000E+02	+7.3317749E+02
58.0	3	+5.5666650E+02	+5.7735026E+00	+5.6000000E+02	+5.5000000E+02	+7.2883300E+02
61.0	3	+7.8333325E+02	+1.1547005E+01	+7.9000000E+02	+7.7000000E+02	+7.2231591E+02
62.0	3	+6.0333325E+02	+5.7735026E+00	+6.1000000E+02	+6.0000000E+02	+7.2014355E+02
63.0	3	+7.0000000E+02	+3.4641016E+01	+7.4000000E+02	+6.8000000E+02	+7.1797119E+02
59.0	6	+8.1666650E+02	+2.2677448E+02	+1.0400000E+03	+6.1000000E+02	+7.0493725E+02
70.0	3	+8.5666650E+02	+5.5075705E+01	+9.2000000E+02	+8.2000000E+02	+7.0276489E+02
71.0	3	+5.3666650E+02	+1.1547005E+01	+5.5000000E+02	+5.3000000E+02	+7.0059252E+02
72.0	9	+8.2444433E+02	+9.1393532E+01	+9.9000000E+02	+7.1000000E+02	+6.9842016E+02
76.0	6	+7.9500000E+02	+2.6174414E+02	+1.0900000E+03	+5.4000000E+02	+6.8973071E+02
78.0	3	+6.7000000E+02	+0.0000000E+47	+6.7000000E+02	+6.7000000E+02	+6.8538598E+02
81.0	3	+6.7333325E+02	+8.1445278E+01	+7.3000000E+02	+5.8000000E+02	+6.7886914E+02
82.0	3	+7.0000000E+02	+1.7320508E+01	+7.1000000E+02	+6.8000000E+02	+6.7669677E+02
84.0	6	+6.4000000E+02	+4.1952353E+01	+7.1000000E+02	+6.0000000E+02	+6.7235205E+02
85.0	3	+5.0333325E+02	+2.3094010E+01	+5.3000000E+02	+4.9000000E+02	+6.7017968E+02
86.0	3	+5.9666650E+02	+5.5075705E+01	+6.5000000E+02	+5.4000000E+02	+6.6800732E+02
87.0	3	+1.0966665E+03	+1.6072751E+02	+1.2800000E+03	+9.8000000E+02	+6.6583496E+02
88.0	6	+5.0500000E+02	+5.0892042E+01	+5.8000000E+02	+4.6000000E+02	+6.6366259E+02
89.0	9	+7.5555541E+02	+1.9086062E+02	+9.9000000E+02	+4.9000000E+02	+6.6149023E+02
90.0	6	+6.4000000E+02	+1.4380542E+02	+8.3000000E+02	+5.0000000E+02	+6.5931787E+02
91.0	3	+6.0666650E+02	+2.3094010E+01	+6.2000000E+02	+5.8000000E+02	+6.5714550E+02
94.0	15	+7.1733325E+02	+2.6850024E+02	+1.4000000E+03	+3.3000000E+02	+6.5062866E+02
95.0	6	+6.9500000E+02	+2.2340546E+02	+9.5000000E+02	+4.8000000E+02	+6.4845629E+02
96.0	6	+8.2333325E+02	+3.5023801E+01	+8.7000000E+02	+7.7000000E+02	+6.4628393E+02
97.0	3	+6.4666650E+02	+4.1633319E+01	+6.8000000E+02	+6.0000000E+02	+6.4411157E+02
100.0	3	+4.1000000E+02	+9.9999999E+00	+4.2000000E+02	+4.0000000E+02	+6.3759448E+02

ANB 3066 PROPLLNT (ANA & ANB UNLND, G POLYMER) STRESS RELAX MODULUS @ 10 SEC 1%

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
113.0	9	+4.5111108E+02	+4.9609586E+01	+5.1000000E+02	+3.7000000E+02	+6.0935400E+02
118.0	3	+5.8333325E+02	+3.7859388E+01	+6.1000000E+02	+5.4000000E+02	+5.9849243E+02
119.0	3	+4.9000000E+02	+9.9999999E+00	+5.0000000E+02	+4.8000000E+02	+5.9632006E+02
120.0	3	+7.2333325E+02	+5.8594652E+01	+7.9000000E+02	+6.8000000E+02	+5.9414770E+02
137.0	3	+4.4333325E+02	+1.1547005E+01	+4.5000000E+02	+4.3000000E+02	+5.5721777E+02

ANB 3066 PROPLLNT (ANA & ANB UNLND, G POLYMER) STRESS RELAX MODULUS @ 10 SEC 1%

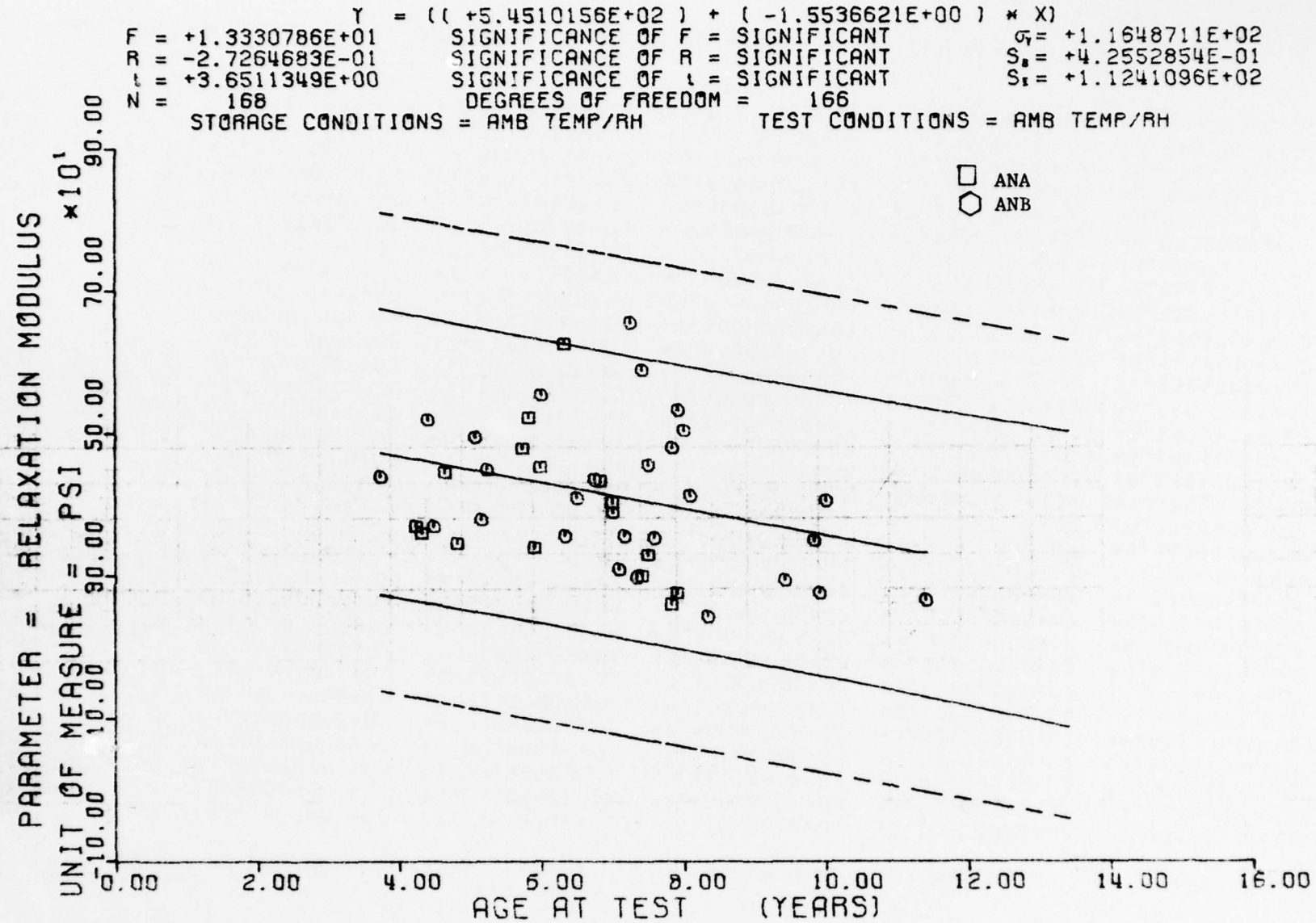

Y = ((+5.4510156E+02) + (-1.5536621E+00) * X)
F = +1.3330786E+01 SIGNIFICANCE OF F = SIGNIFICANT σ_Y = +1.1648711E+02
R = -2.7264683E-01 SIGNIFICANCE OF R = SIGNIFICANT S_a = +4.2552854E-01
t = +3.6511349E+00 SIGNIFICANCE OF t = SIGNIFICANT S_t = +1.1241096E+02
N = 168 DEGREES OF FREEDOM = 166
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH
ANA
ANB
PARAMETER = RELAXATION MODULUS
UNIT OF MEASURE = PSI *10^1
90.00
70.00
50.00
30.00
10.00
-10.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPLLNT (ANA & ANB UNLND, G POLYMER) STRESS RELAX MOD @ 1000 SEC 1%

FIGURE 6-23

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
45.0	3	+4.4000000E+02	+2.6457513E+01	+4.6000000E+02	+4.1000000E+02	+4.7518652E+02
51.0	6	+3.7000000E+02	+5.6568542E+01	+4.4000000E+02	+3.1000000E+02	+4.6586474E+02
52.0	3	+3.6000000E+02	+1.9999999E+01	+3.8000000E+02	+3.4000000E+02	+4.6431103E+02
53.0	6	+5.2000000E+02	+9.0553851E+01	+6.3000000E+02	+4.2000000E+02	+4.6275732E+02
54.0	3	+3.7000000E+02	+9.9999999E+00	+3.8000000E+02	+3.6000000E+02	+4.6120361E+02
56.0	6	+4.4666650E+02	+1.2242004E+02	+6.1000000E+02	+3.1000000E+02	+4.5809643E+02
58.0	3	+3.4666650E+02	+1.1547005E+01	+3.6000000E+02	+3.4000000E+02	+4.5498901E+02
61.0	3	+4.9666650E+02	+1.5275252E+01	+5.1000000E+02	+4.8000000E+02	+4.5032812E+02
62.0	3	+3.8000000E+02	+0.0000000E+19	+3.8000000E+02	+3.8000000E+02	+4.4877441E+02
63.0	3	+4.5000000E+02	+1.7320508E+01	+4.6000000E+02	+4.3000000E+02	+4.4722070E+02
69.0	6	+4.8000000E+02	+1.3175735E+02	+6.1000000E+02	+3.5000000E+02	+4.3789868E+02
70.0	3	+5.2333325E+02	+2.3094010E+01	+5.5000000E+02	+5.1000000E+02	+4.3634497E+02
71.0	3	+3.4000000E+02	+9.9999999E+00	+3.5000000E+02	+3.3000000E+02	+4.3479150E+02
72.0	9	+5.2111108E+02	+6.3530395E+01	+6.2000000E+02	+4.4000000E+02	+4.3323779E+02
76.0	6	+4.9166650E+02	+1.5171244E+02	+6.7000000E+02	+3.4000000E+02	+4.2702319E+02
78.0	3	+4.1000000E+02	+9.9999999E+00	+4.2000000E+02	+4.0000000E+02	+4.2391577E+02
81.0	3	+4.3666650E+02	+6.0277137E+01	+5.0000000E+02	+3.8000000E+02	+4.1925488E+02
82.0	3	+4.3333325E+02	+1.5275252E+01	+4.5000000E+02	+4.2000000E+02	+4.1770117E+02
84.0	6	+3.9666650E+02	+2.2509257E+01	+4.4000000E+02	+3.8000000E+02	+4.1459375E+02
85.0	3	+3.1000000E+02	+9.9999999E+00	+3.2000000E+02	+3.0000000E+02	+4.1304003E+02
86.0	3	+3.5666650E+02	+3.2145502E+01	+3.8000000E+02	+3.2000000E+02	+4.1148657E+02
87.0	3	+6.5666650E+02	+8.9628864E+01	+7.6000000E+02	+6.0000000E+02	+4.0993286E+02
88.0	6	+2.9333325E+02	+4.1673332E+01	+3.8000000E+02	+2.7000000E+02	+4.0837915E+02
89.0	9	+4.9333325E+02	+1.5239750E+02	+6.5000000E+02	+2.8000000E+02	+4.0682543E+02
90.0	6	+3.9333325E+02	+7.1460945E+01	+4.8000000E+02	+3.2000000E+02	+4.0527172E+02
91.0	3	+3.5333325E+02	+1.1547005E+01	+3.6000000E+02	+3.4000000E+02	+4.0371826E+02
94.0	15	+4.3500000E+02	+1.6642458E+02	+8.8000000E+02	+2.1000000E+02	+3.9905712E+02
95.0	6	+4.0500000E+02	+1.4152738E+02	+5.6000000E+02	+2.7000000E+02	+3.9750341E+02
96.0	6	+5.0500000E+02	+2.8809720E+01	+5.5000000E+02	+4.7000000E+02	+3.9594995E+02
97.0	3	+4.1333325E+02	+5.7735026E+00	+4.2000000E+02	+4.1000000E+02	+3.9439624E+02
100.0	3	+2.4333332E+02	+1.1547005E+01	+2.5000000E+02	+2.3000000E+02	+3.8973510E+02

ANB 3066 PROPLLNT (ANA & ANB UNLND. G POLYMER) STRESS RELAX MOD @ 1000 SEC 1?

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
113.0	9	+2.9444433E+02	+3.4318767E+01	+3.6000000E+02	+2.5000000E+02	+3.6953759E+02
118.0	3	+3.5000000E+02	+1.7320508E+01	+3.6000000E+02	+3.3000000E+02	+3.6176928E+02
119.0	3	+2.7666650E+02	+5.7735026E+00	+2.8000000E+02	+2.7000000E+02	+3.6021557E+02
120.0	3	+4.0666650E+02	+2.8867513E+01	+4.4000000E+02	+3.9000000E+02	+3.5866186E+02
137.0	3	+2.6666650E+02	+5.7735026E+00	+2.7000000E+02	+2.6000000E+02	+3.3224975E+02

AVB 3066 PROPLLNT (AVA & AVB UNLVD, G POLYMER) STRESS RELAX MOD @ 1000 SEC 1%

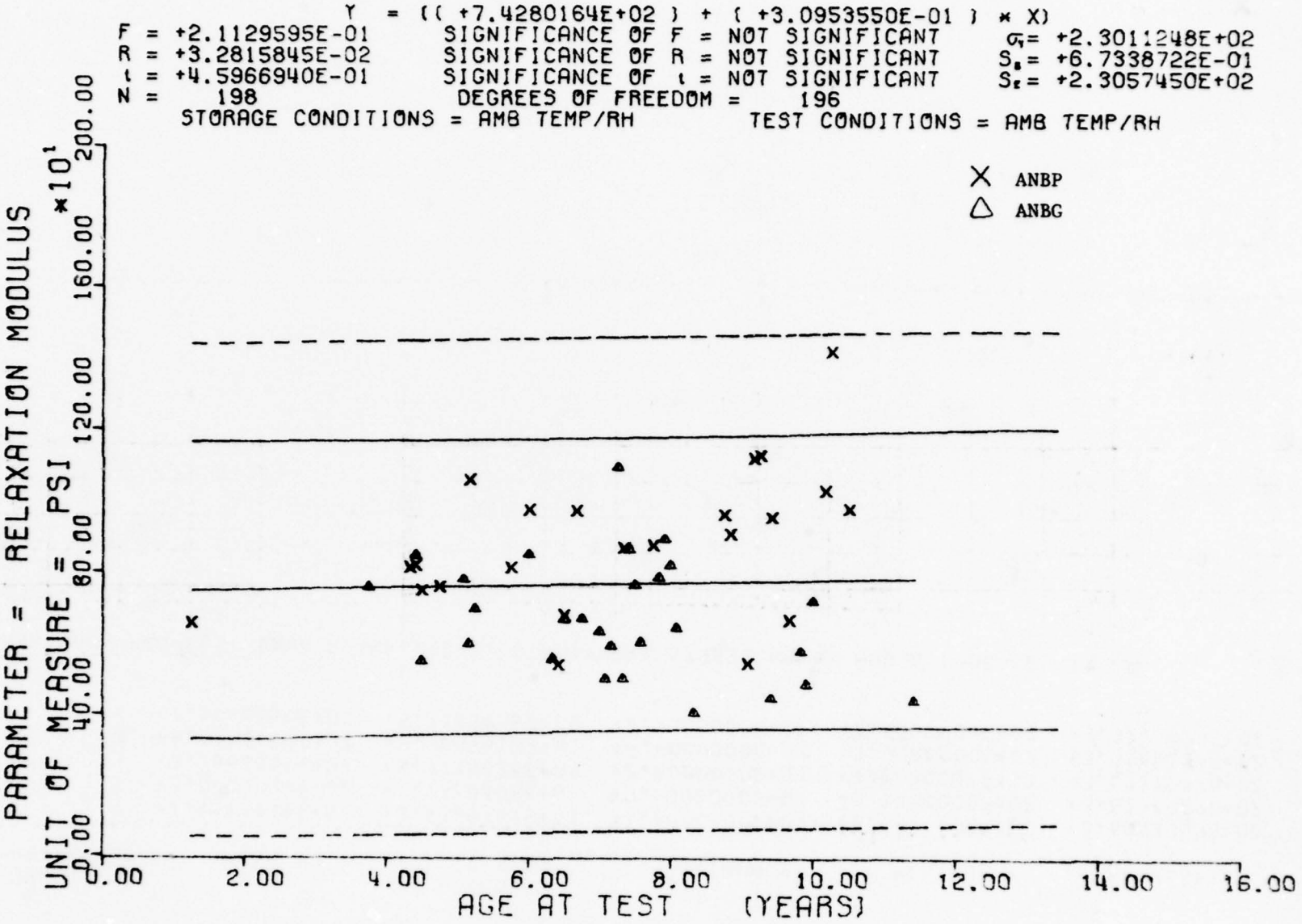

Y = ((+7.4280164E+02) + (+3.0953550E-01) * X)
F = +2.1129595E-01 SIGNIFICANCE OF F = NOT SIGNIFICANT σ = +2.3011248E+02
R = +3.2815845E-02 SIGNIFICANCE OF R = NOT SIGNIFICANT S = +6.7338722E-01
t = +4.5966940E-01 SIGNIFICANCE OF t = NOT SIGNIFICANT S = +2.3057450E+02
N = 198 DEGREES OF FREEDOM = 196
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH
ANBP
ANBG
PARAMETER = RELAXATION MODULUS
UNIT OF MEASURE = PSI *10¹
0.00
40.00
80.00
120.00
160.00
200.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPLLNT (ANB G & P, UNLND) STRESS RELAX MODULUS @ 10 SEC 1% STRAIN

FIGURE 6-24

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	3	+6.6000000E+02	+6.0827625E+01	+7.3000000E+02	+6.2000000E+02	+7.4744458E+02
45.0	3	+7.6000000E+02	+5.5577643E+01	+8.1000000E+02	+7.0000000E+02	+7.5673071E+02
52.0	9	+8.1666650E+02	+1.9570385E+02	+1.1700000E+03	+4.9000000E+02	+7.5889746E+02
53.0	9	+8.4111108E+02	+1.5885877E+02	+1.0400000E+03	+6.4000000E+02	+7.5920678E+02
54.0	6	+6.5333325E+02	+1.1552777E+02	+8.0000000E+02	+5.4000000E+02	+7.5951635E+02
57.0	3	+7.6333325E+02	+6.8068592E+01	+8.4000000E+02	+7.1000000E+02	+7.6044506E+02
61.0	3	+7.8333325E+02	+1.1547005E+01	+7.9000000E+02	+7.7000000E+02	+7.6168310E+02
62.0	6	+8.3333325E+02	+2.5271855E+02	+1.0900000E+03	+6.0000000E+02	+7.6199267E+02
63.0	3	+7.0000000E+02	+3.4641015E+01	+7.4000000E+02	+6.9000000E+02	+7.6230224E+02
69.0	3	+8.1666650E+02	+8.6216781E+01	+9.1000000E+02	+7.4000000E+02	+7.6415942E+02
72.0	9	+8.9555541E+02	+1.0236101E+02	+1.0100000E+03	+7.1000000E+02	+7.6508813E+02
76.0	3	+5.6000000E+02	+1.9999999E+01	+5.8000000E+02	+5.4000000E+02	+7.6632617E+02
77.0	3	+5.4333325E+02	+5.7735026E+00	+5.5000000E+02	+5.4000000E+02	+7.6663574E+02
78.0	6	+6.7666650E+02	+2.0655911E+01	+7.1000000E+02	+6.5000000E+02	+7.6694531E+02
80.0	3	+9.7666650E+02	+1.1590225E+02	+1.1100000E+03	+9.0000000E+02	+7.6756445E+02
81.0	3	+6.7333325E+02	+8.1445278E+01	+7.3000000E+02	+5.8000000E+02	+7.6787402E+02
84.0	3	+6.3666650E+02	+3.0550504E+01	+6.7000000E+02	+6.1000000E+02	+7.6880249E+02
85.0	3	+5.0333325E+02	+2.3094010E+01	+5.3000000E+02	+4.9000000E+02	+7.6911206E+02
86.0	3	+5.9666650E+02	+5.5075705E+01	+6.5000000E+02	+5.4000000E+02	+7.6942163E+02
87.0	3	+1.0966665E+03	+1.6072751E+02	+1.2800000E+03	+9.8000000E+02	+7.6973120E+02
88.0	9	+6.2777758E+02	+2.3215177E+02	+1.1300000E+03	+4.6000000E+02	+7.7004077E+02
89.0	6	+8.6833325E+02	+1.0796504E+02	+9.9000000E+02	+7.0000000E+02	+7.7035009E+02
90.0	3	+7.6666650E+02	+5.5075705E+01	+8.3000000E+02	+7.3000000E+02	+7.7065966E+02
91.0	3	+6.0666650E+02	+2.3094010E+01	+6.2000000E+02	+5.8000000E+02	+7.7096923E+02
93.0	3	+8.8000000E+02	+2.9999999E+01	+9.1000000E+02	+8.5000000E+02	+7.7158837E+02
94.0	12	+7.9000000E+02	+2.4826671E+02	+1.4000000E+03	+5.2000000E+02	+7.7189794E+02
95.0	3	+8.9566650E+02	+5.0332229E+01	+9.5000000E+02	+8.5000000E+02	+7.7220751E+02
96.0	6	+8.2333325E+02	+3.5023801E+01	+8.7000000E+02	+7.7000000E+02	+7.7251684E+02
97.0	3	+6.4666650E+02	+4.1633319E+01	+6.8000000E+02	+6.0000000E+02	+7.7282641E+02
100.0	3	+4.1000000E+02	+9.9999999E+00	+4.2000000E+02	+4.0000000E+02	+7.7375512E+02
105.0	6	+9.6666650E+02	+1.9459534E+02	+1.2000000E+03	+7.1000000E+02	+7.7530273E+02

ANB 3066 PROPLLNT (ANB G & P, UNLND) STRESS RELAX MODULUS @ 10 SEC 1% STRAIN

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
106.0	3	+9.1333325E+02	+2.1221058E+02	+1.1500000E+03	+7.4000000E+02	+7.7561230E+02
109.0	3	+5.5000000E+02	+0.0000000E+03	+5.5000000E+02	+5.5000000E+02	+7.7654101E+02
110.0	3	+1.1233332E+03	+1.7387735E+02	+1.3200000E+03	+9.9000000E+02	+7.7685034E+02
111.0	6	+1.1316665E+03	+1.7904375E+02	+1.4300000E+03	+9.3000000E+02	+7.7715991E+02
113.0	12	+5.7533325E+02	+2.3482424E+02	+1.0000000E+03	+3.7000000E+02	+7.7777905E+02
116.0	6	+6.7166650E+02	+1.8411047E+02	+9.9000000E+02	+4.9000000E+02	+7.7870776E+02
118.0	3	+5.8333325E+02	+3.7859388E+01	+6.1000000E+02	+5.4000000E+02	+7.7932666E+02
119.0	3	+4.9000000E+02	+9.9999999E+00	+5.0000000E+02	+4.8000000E+02	+7.7963623E+02
120.0	3	+7.2333325E+02	+2.8594552E+01	+7.9000000E+02	+6.8000000E+02	+7.7994580E+02
122.0	3	+1.0333332E+03	+7.5718777E+01	+1.1200000E+03	+9.8000000E+02	+7.8056494E+02
123.0	3	+1.4233332E+03	+1.0969655E+02	+1.5500000E+03	+1.3600000E+03	+7.8087451E+02
126.0	3	+9.8333325E+02	+4.0414518E+01	+1.0200000E+03	+9.4000000E+02	+7.8180297E+02
137.0	3	+4.4333325E+02	+1.1547005E+01	+4.5000000E+02	+4.3000000E+02	+7.8520800E+02

ANB 3066 PROPLLNT (ANB G & P, UNLND) STRESS RELAX MODULUS @ 10 SEC 1% STRAIN

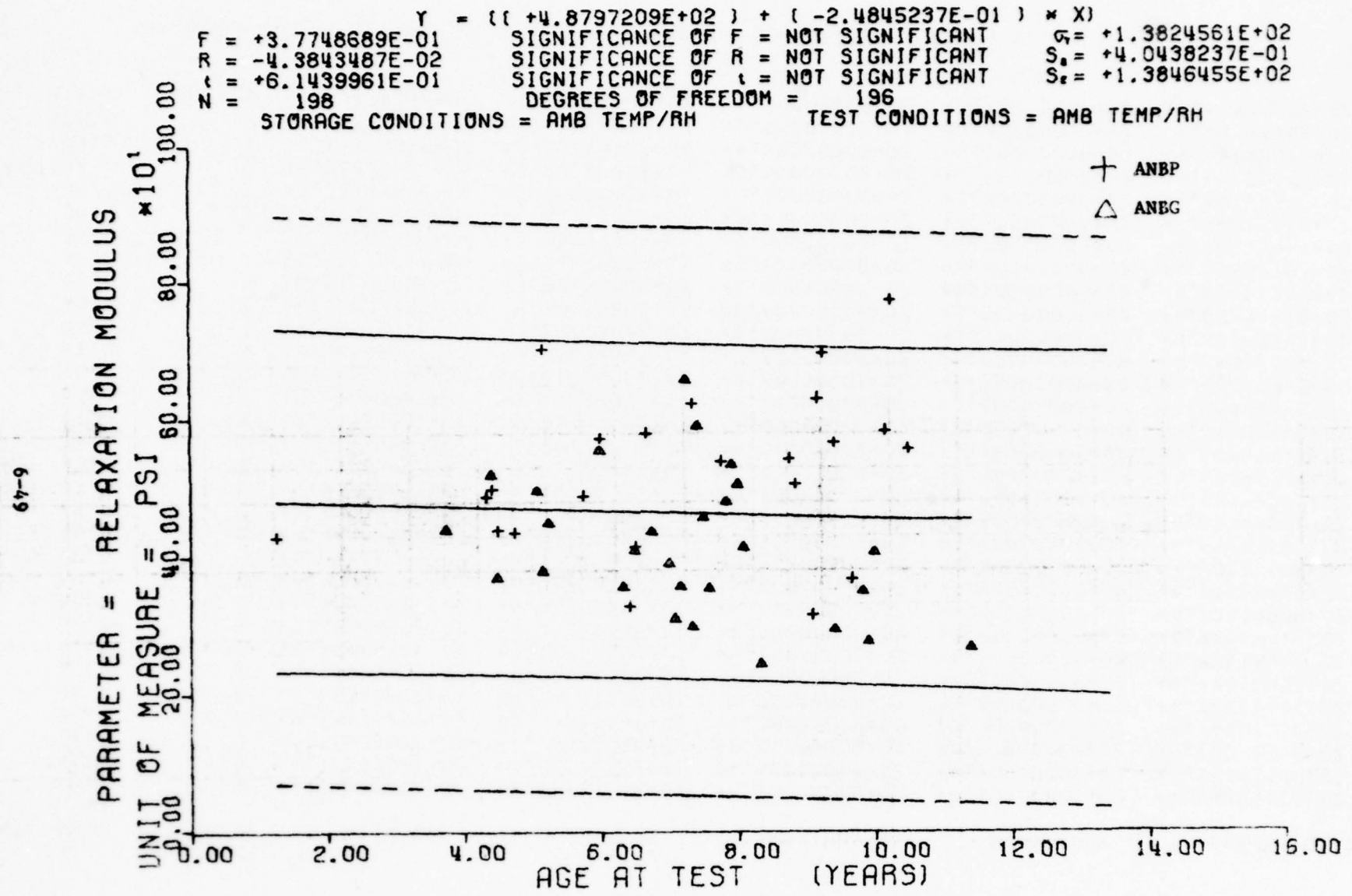

Y = ((+4.8797209E+02) + (-2.4845237E-01) * X)
F = +3.7748689E-01 SIGNIFICANCE OF F = NOT SIGNIFICANT
R = -4.3843487E-02 SIGNIFICANCE OF R = NOT SIGNIFICANT
t = +6.1439961E-01 SIGNIFICANCE OF t = NOT SIGNIFICANT
N = 198 DEGREES OF FREEDOM = 196
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH
ANBP
ANBG
PARAMETER = RELAXATION MODULUS
UNIT OF MEASURE = PSI *10¹
0.00
20.00
40.00
60.00
80.00
100.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPLLNT (ANB G & P POLYMER, UNLND) STRESS RELAX MOD @ 1000 SEC, 1% ST

FIGURE 6-25

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
15.0	3	+4.3000000E+02	+3.4641016E+01	+4.7000000E+02	+4.1000000E+02	+4.8424511E+02
45.0	3	+4.4000000E+02	+2.6457513E+01	+4.6000000E+02	+4.1000000E+02	+4.7679150E+02
52.0	9	+4.8888867E+02	+1.1688075E+02	+6.9000000E+02	+2.8000000E+02	+4.7503249E+02
53.0	9	+5.1333325E+02	+9.1651513E+01	+6.3000000E+02	+3.7000000E+02	+4.7480395E+02
54.0	6	+4.0500000E+02	+4.7644516E+01	+4.7000000E+02	+3.6000000E+02	+4.7455566E+02
57.0	3	+4.3666650E+02	+4.7258156E+01	+4.9000000E+02	+4.0000000E+02	+4.7381030E+02
61.0	3	+4.9666650E+02	+1.5275252E+01	+5.1000000E+02	+4.8000000E+02	+4.7281640E+02
62.0	6	+5.4166650E+02	+1.7803557E+02	+7.2000000E+02	+3.8000000E+02	+4.7256787E+02
63.0	3	+4.5000000E+02	+1.7320508E+01	+4.6000000E+02	+4.3000000E+02	+4.7231958E+02
69.0	3	+4.9000000E+02	+6.0827625E+01	+5.6000000E+02	+4.5000000E+02	+4.7082885E+02
72.0	9	+5.6111108E+02	+4.1062283E+01	+6.2000000E+02	+4.8000000E+02	+4.7008349E+02
76.0	3	+3.5666650E+02	+1.5275252E+01	+3.7000000E+02	+3.4000000E+02	+4.6908959E+02
77.0	3	+3.3000000E+02	+0.0000000E+23	+3.3000000E+02	+3.3000000E+02	+4.6884106E+02
78.0	6	+4.1333325E+02	+8.1649658E+00	+4.2000000E+02	+4.0000000E+02	+4.6859277E+02
80.0	3	+5.8000000E+02	+7.8102496E+01	+6.7000000E+02	+5.3000000E+02	+4.6809570E+02
81.0	3	+4.3666650E+02	+6.0277137E+01	+5.0000000E+02	+3.8000000E+02	+4.6784741E+02
84.0	3	+3.3000000E+02	+9.9999999E+00	+4.0000000E+02	+3.8000000E+02	+4.6710205E+02
85.0	3	+3.1000000E+02	+9.9999999E+00	+3.2000000E+02	+3.0000000E+02	+4.6685351E+02
86.0	3	+3.5666650E+02	+3.2145502E+01	+3.8000000E+02	+3.2000000E+02	+4.6660498E+02
87.0	3	+6.5666650E+02	+8.9628864E+01	+7.6000000E+02	+6.0000000E+02	+4.6635668E+02
88.0	9	+4.0666650E+02	+2.1071307E+02	+8.8000000E+02	+2.7000000E+02	+4.6610815E+02
89.0	6	+5.9000000E+02	+5.7965506E+01	+6.5000000E+02	+5.2000000E+02	+4.6585961E+02
90.0	3	+4.5666650E+02	+2.0816659E+01	+4.8000000E+02	+4.4000000E+02	+4.6561132E+02
91.0	3	+3.5333325E+02	+1.1547005E+01	+3.6000000E+02	+3.4000000E+02	+4.6536279E+02
93.0	3	+5.4000000E+02	+1.9999999E+01	+5.6000000E+02	+5.2000000E+02	+4.6486596E+02
94.0	12	+4.8000000E+02	+1.5603030E+02	+8.8000000E+02	+3.2000000E+02	+4.6461743E+02
95.0	3	+5.3333325E+02	+2.3094010E+01	+5.6000000E+02	+5.2000000E+02	+4.6436889E+02
96.0	6	+5.0500000E+02	+2.8809720E+01	+5.5000000E+02	+4.7000000E+02	+4.6412060E+02
97.0	3	+4.1333325E+02	+5.7735026E+00	+4.2000000E+02	+4.1000000E+02	+4.6387207E+02
100.0	3	+2.4333332E+02	+1.1547005E+01	+2.5000000E+02	+2.3000000E+02	+4.6312670E+02
105.0	6	+5.4333325E+02	+1.1724617E+02	+6.9000000E+02	+3.8000000E+02	+4.6188452E+02

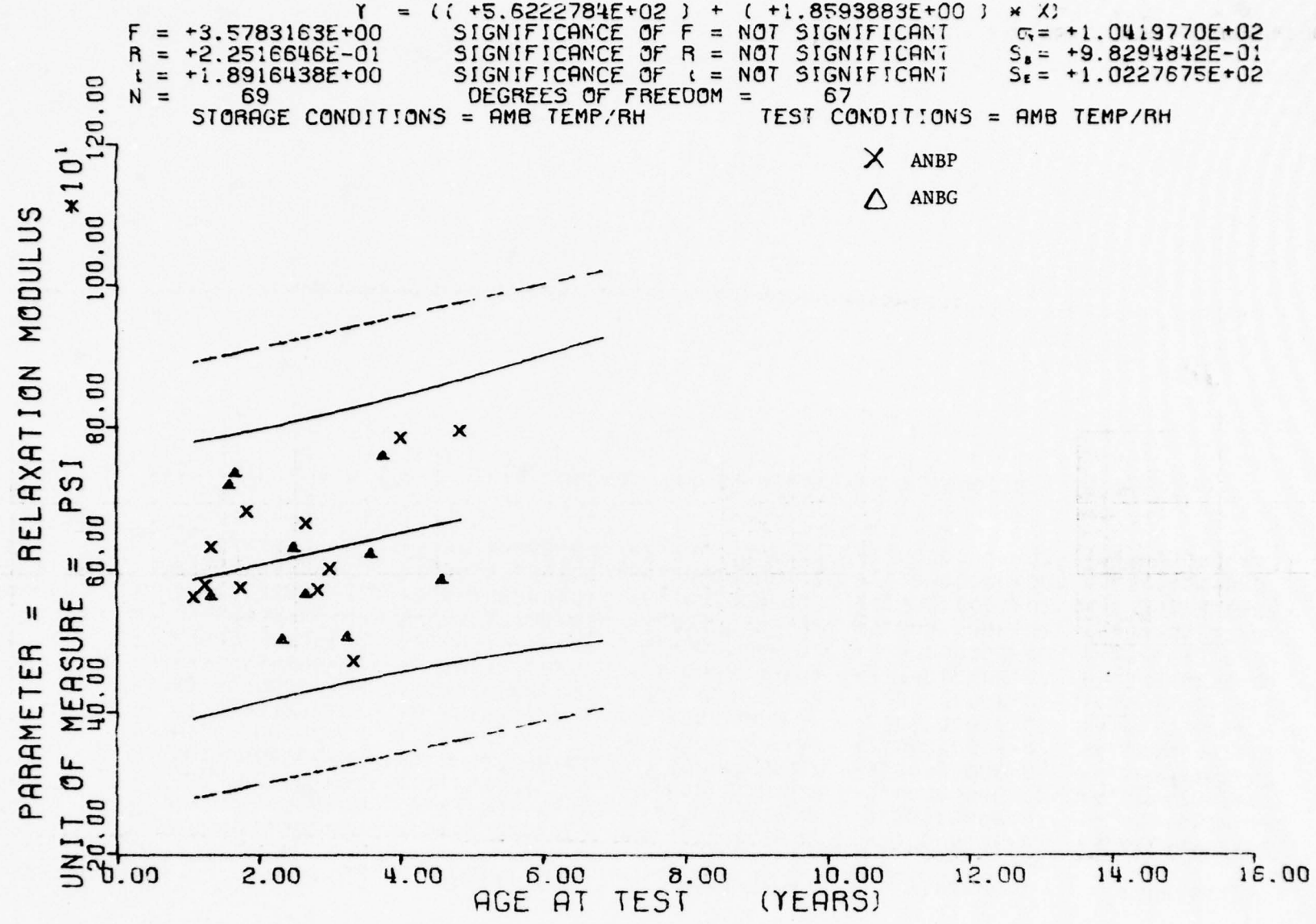
ANB 306A PROPELLNT (ANB G & P POLYMER, UNLND) STRESS RELAX MOD @ 1000 SEC, 1% ST

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
106.0	3	+5.0666650E+02	+1.1590225E+02	+6.4000000E+02	+4.3000000E+02	+4.6163598E+02
109.0	3	+3.1666650E+02	+5.7735026E+00	+3.2000000E+02	+3.1000000E+02	+4.6089062E+02
110.0	3	+6.3000000E+02	+1.1269427E+02	+7.6000000E+02	+5.6000000E+02	+4.6064208E+02
111.0	6	+6.9666650E+02	+1.3952299E+02	+9.3000000E+02	+5.3000000E+02	+4.6039379E+02
113.0	12	+3.6250000E+02	+1.2700214E+02	+5.9000000E+02	+2.5000000E+02	+4.5989697E+02
116.0	6	+3.6333325E+02	+9.8268340E+01	+5.5000000E+02	+2.8000000E+02	+4.5915161E+02
118.0	3	+3.5000000E+02	+1.7320508E+01	+3.6000000E+02	+3.3000000E+02	+4.5865454E+02
119.0	3	+2.7666650E+02	+5.7735026E+00	+2.8000000E+02	+2.7000000E+02	+4.5840625E+02
120.0	3	+4.0666650E+02	+2.8867513E+01	+4.4000000E+02	+3.9000000E+02	+4.5815771E+02
122.0	3	+5.8333325E+02	+4.9328828E+01	+6.4000000E+02	+5.5000000E+02	+4.5766088E+02
123.0	3	+7.7333325E+02	+4.9328828E+01	+8.3000000E+02	+7.4000000E+02	+4.5741235E+02
126.0	3	+5.5666650E+02	+4.0414518E+01	+6.0000000E+02	+5.2000000E+02	+4.5666699E+02
137.0	3	+2.6666650E+02	+5.7735026E+00	+2.7000000E+02	+2.6000000E+02	+4.5393408E+02

ANB 3066 PROPLLNT (ANB G & P POLYMER, UNLND) STRESS RELAX MOD @ 1000 SEC, 1% ST



ANB 3066 PROPLLNT (ANB G & P, LINED) STRESS RELAX MODULUS @ 10 SEC 1% STRAIN

FIGURE 6-26

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+5.6333325E+02	+4.1633319E+01	+6.1000000E+02	+5.3000000E+02	+5.8639965E+02
15.0	3	+5.8000000E+02	+1.7320508E+01	+6.0000000E+02	+5.7000000E+02	+5.9011865E+02
16.0	6	+5.9833325E+02	+7.9351538E+01	+7.0000000E+02	+5.1000000E+02	+5.9197802E+02
19.0	3	+7.2000000E+02	+4.5825756E+01	+7.7000000E+02	+6.8000000E+02	+5.9755615E+02
20.0	3	+7.3666650E+02	+3.7859388E+01	+7.8000000E+02	+7.1000000E+02	+5.9941552E+02
21.0	3	+5.7666650E+02	+2.0816659E+01	+6.0000000E+02	+5.6000000E+02	+6.0127490E+02
22.0	3	+6.8333325E+02	+2.0816659E+01	+7.0000000E+02	+6.6000000E+02	+6.0313427E+02
29.0	6	+5.0333325E+02	+7.7373562E+01	+6.2000000E+02	+4.1000000E+02	+6.1429052E+02
31.0	6	+6.3166650E+02	+4.7081489E+01	+6.9000000E+02	+5.7000000E+02	+6.1800927E+02
32.0	6	+6.1666650E+02	+7.3120904E+01	+7.2000000E+02	+5.1000000E+02	+6.2172802E+02
34.0	3	+5.7333325E+02	+1.5275252E+01	+5.9000000E+02	+5.6000000E+02	+6.2544702E+02
36.0	3	+6.0333325E+02	+8.0208062E+01	+6.8000000E+02	+5.2000000E+02	+6.2916577E+02
39.0	3	+5.0666650E+02	+5.7735026E+00	+5.1000000E+02	+5.0000000E+02	+6.3474389E+02
40.0	3	+4.7333325E+02	+7.5055534E+01	+5.6000000E+02	+4.3000000E+02	+6.3660327E+02
43.0	3	+6.2333325E+02	+3.7859388E+01	+6.5000000E+02	+5.8000000E+02	+6.4218139E+02
45.0	3	+7.6000000E+02	+1.3000000E+02	+8.9000000E+02	+6.3000000E+02	+6.4590014E+02
48.0	3	+7.8666650E+02	+9.2915732E+01	+8.5000000E+02	+6.8000000E+02	+6.5147827E+02
55.0	3	+5.8666650E+02	+5.1316014E+01	+6.3000000E+02	+5.3000000E+02	+6.6449414E+02
58.0	3	+7.9666650E+02	+4.7258156E+01	+8.5000000E+02	+7.6000000E+02	+6.7007226E+02

ANB 3066 PROPLLNT (ANB G & P, LINED) STRESS RELAX MODULUS @ 10 SEC 1% STRAIN

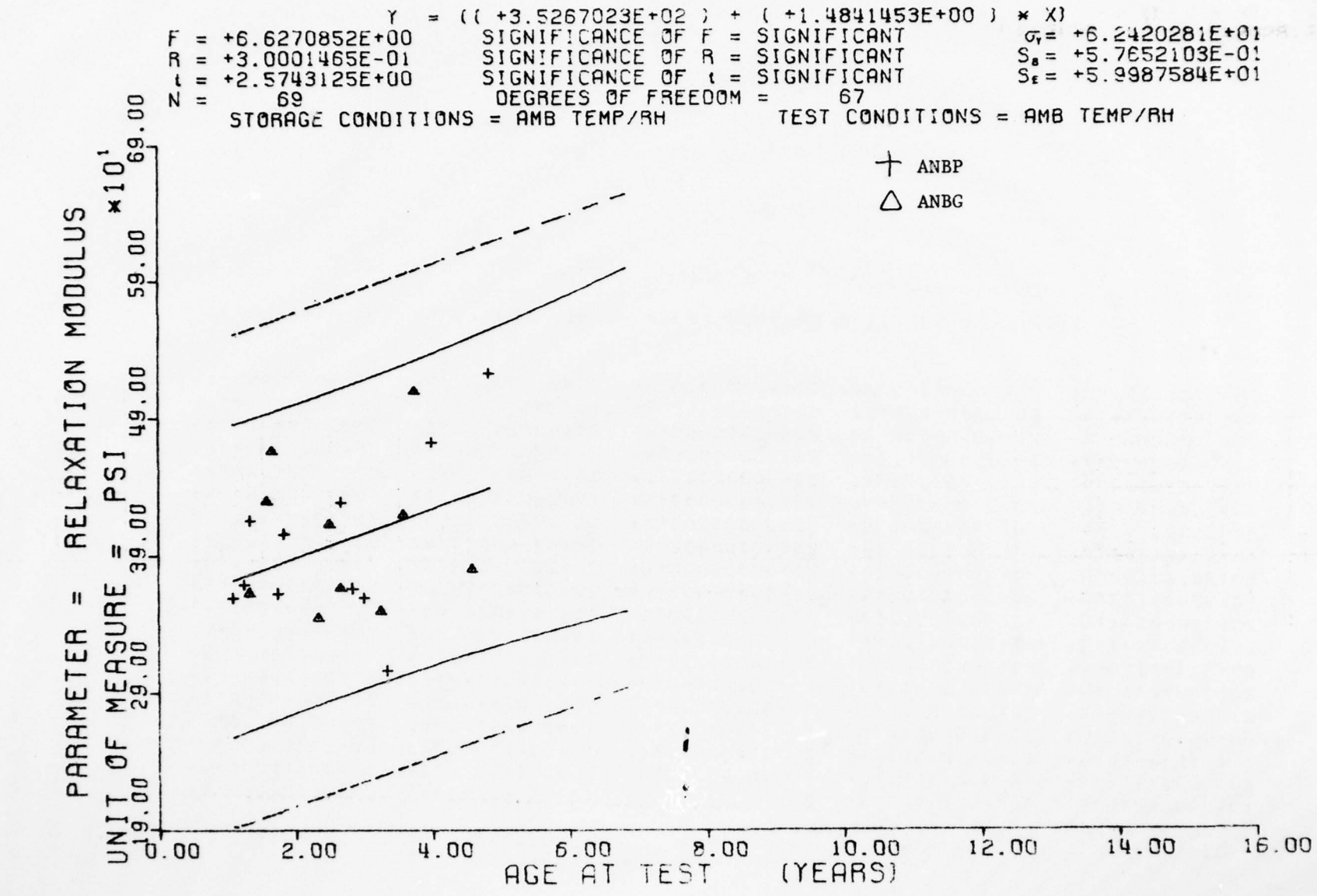

Y = ((+3.5267023E+02) + (+1.4841453E+00) * X)
F = +6.6270852E+00 SIGNIFICANCE OF F = SIGNIFICANT σY = +6.2420281E+01
R = +3.0001465E-01 SIGNIFICANCE OF R = SIGNIFICANT Sa = +5.7652103E-01
t = +2.5743125E+00 SIGNIFICANCE OF t = SIGNIFICANT Sε = +5.9987584E+01
N = 69 DEGREES OF FREEDOM = 67
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH
ANBP
ANBG
PARAMETER = RELAXATION MODULUS
UNIT OF MEASURE = PSI *10¹
19.00
29.00
39.00
49.00
59.00
69.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPLLNT (ANB G & P POLYMER, LINED) STRESS RELAX MOD @ 1000 SEC, 1% ST

FIGURE 6-27

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+3.6000000E+02	+1.7320508E+01	+3.8000000E+02	+3.5000000E+02	+3.7196411E+02
15.0	3	+3.7000000E+02	+2.6457513E+01	+4.0000000E+02	+3.5000000E+02	+3.7493237E+02
16.0	6	+3.9000000E+02	+4.1472882E+01	+4.4000000E+02	+3.5000000E+02	+3.7641650E+02
19.0	3	+4.3000000E+02	+1.7320508E+01	+4.5000000E+02	+4.2000000E+02	+3.8086889E+02
20.0	3	+4.6666650E+02	+2.8867513E+01	+5.0000000E+02	+4.5000000E+02	+3.8235302E+02
21.0	3	+3.6333325E+02	+2.3094010E+01	+3.9000000E+02	+3.5000000E+02	+3.8383715E+02
22.0	3	+4.0666650E+02	+1.5275252E+01	+4.2000000E+02	+3.9000000E+02	+3.8532128E+02
28.0	6	+3.4500000E+02	+4.3243496E+01	+4.1000000E+02	+2.9000000E+02	+3.9422607E+02
30.0	6	+4.1333325E+02	+2.7325202E+01	+4.4000000E+02	+3.8000000E+02	+3.9719458E+02
32.0	6	+3.9833325E+02	+4.8751068E+01	+4.7000000E+02	+3.3000000E+02	+4.0016284E+02
34.0	3	+3.6666650E+02	+2.5166114E+01	+3.9000000E+02	+3.4000000E+02	+4.0313110E+02
36.0	3	+3.6000000E+02	+6.2449979E+01	+4.3000000E+02	+3.1000000E+02	+4.0609936E+02
39.0	3	+3.5000000E+02	+9.9999999E+00	+3.6000000E+02	+3.4000000E+02	+4.1055175E+02
40.0	3	+3.0666650E+02	+6.3508529E+01	+3.8000000E+02	+2.7000000E+02	+4.1203588E+02
43.0	3	+4.2000000E+02	+0.0000000E+19	+4.2000000E+02	+4.2000000E+02	+4.1648828E+02
45.0	3	+5.1000000E+02	+6.5574385E+01	+5.8000000E+02	+4.5000000E+02	+4.1945654E+02
48.0	3	+4.7333325E+02	+6.5064070E+01	+5.4000000E+02	+4.1000000E+02	+4.2390917E+02
55.0	3	+3.8000000E+02	+2.6457513E+01	+4.0000000E+02	+3.5000000E+02	+4.3429809E+02
58.0	3	+5.2333325E+02	+5.7735026E+00	+5.3000000E+02	+5.2000000E+02	+4.3875048E+02

ANB 3166 PROPELLANT (ANB G & P POLYMER, LINED) STRESS RELAX MOD @ 1000 SEC, 1% ST

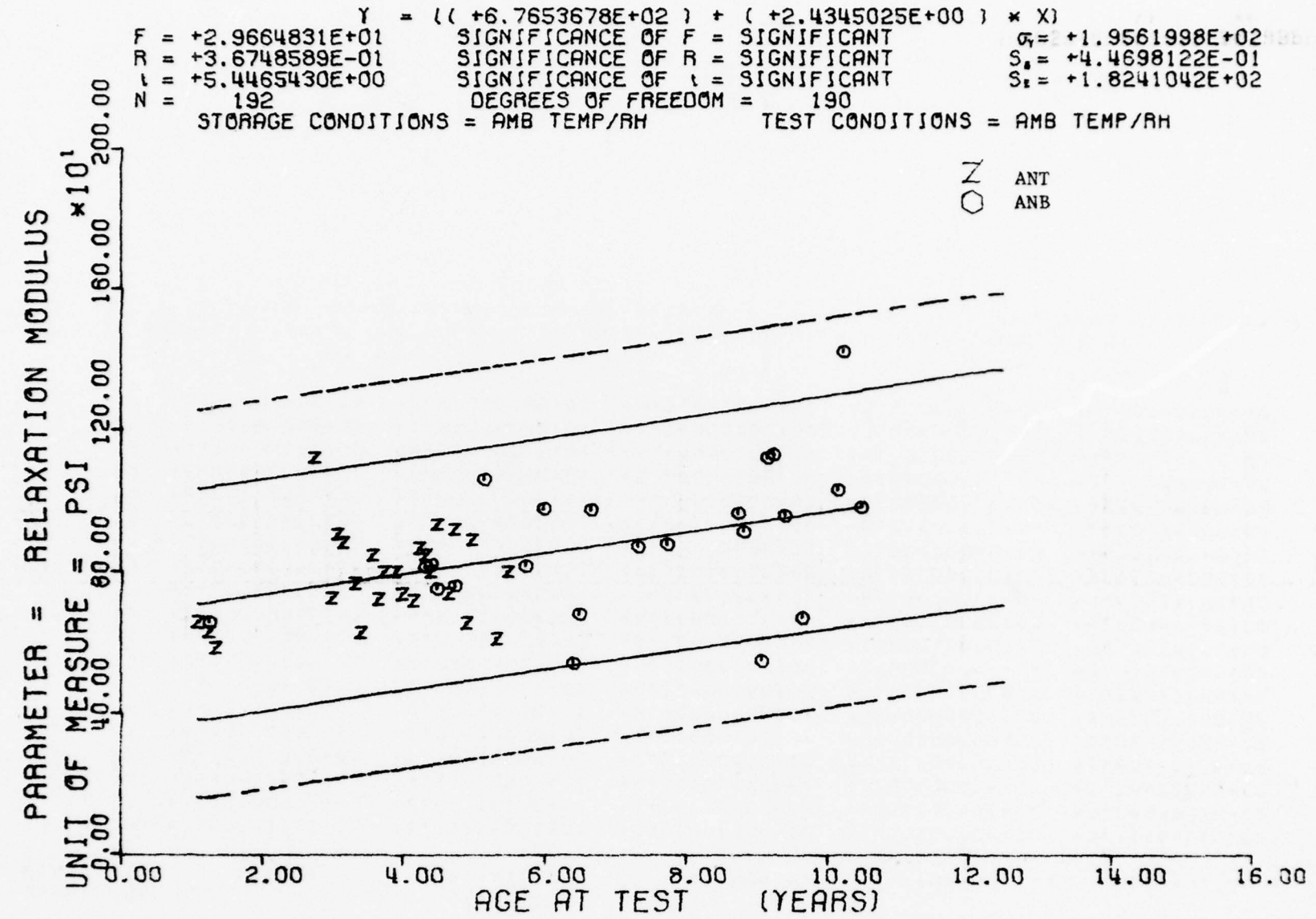

Y = ((+6.7653678E+02) + (+2.4345025E+00) * X)
F = +2.9664831E+01 SIGNIFICANCE OF F = SIGNIFICANT σY = +1.9561998E+02
R = +3.6748589E-01 SIGNIFICANCE OF R = SIGNIFICANT Sa = +4.4698122E-01
t = +5.4465430E+00 SIGNIFICANCE OF t = SIGNIFICANT St = +1.8241042E+02
N = 192 DEGREES OF FREEDOM = 190
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH
Z ANT
O ANB
PARAMETER = RELAXATION MODULUS
UNIT OF MEASURE = PSI *10¹
0.00
40.00
80.00
120.00
160.00
200.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPLLNT (ANT & ANB UNLNO, P POLYMER) STRESS RELAX MODULUS @ 10 SEC 1%

FIGURE 6-28

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+6.6000000E+02	+3.6055512E+01	+7.0000000E+02	+6.3000000E+02	+7.0818530E+02
15.0	6	+6.4666650E+02	+4.4121045E+01	+7.3000000E+02	+6.1000000E+02	+7.1305419E+02
16.0	3	+5.8666650E+02	+2.5166114E+01	+6.1000000E+02	+5.6000000E+02	+7.1548876E+02
33.0	3	+1.1233332E+03	+4.1633319E+01	+1.1700000E+03	+1.0900000E+03	+7.5687524E+02
36.0	6	+7.2666650E+02	+7.6594168E+01	+8.2000000E+02	+6.4000000E+02	+7.6417871E+02
37.0	6	+9.0833325E+02	+1.4190372E+02	+1.0700000E+03	+7.3000000E+02	+7.6661328E+02
38.0	3	+8.8333325E+02	+1.5275252E+01	+9.0000000E+02	+8.7000000E+02	+7.6904785E+02
40.0	3	+7.6666650E+02	+1.0785793E+02	+8.9000000E+02	+6.9000000E+02	+7.7391674E+02
41.0	3	+6.3000000E+02	+2.6457513E+01	+6.5000000E+02	+6.0000000E+02	+7.7635131E+02
43.0	9	+8.4888867E+02	+1.2868998E+02	+1.0000000E+03	+6.5000000E+02	+7.8122021E+02
44.0	6	+7.2333325E+02	+8.2138095E+01	+8.6000000E+02	+6.2000000E+02	+7.8365478E+02
45.0	6	+8.0166650E+02	+1.3511723E+02	+9.5000000E+02	+6.7000000E+02	+7.8608935E+02
47.0	6	+8.0333325E+02	+3.7771241E+01	+8.6000000E+02	+7.6000000E+02	+7.9095825E+02
48.0	6	+7.3833325E+02	+6.7946057E+01	+8.5000000E+02	+6.7000000E+02	+7.9339282E+02
50.0	3	+7.2000000E+02	+9.1651513E+01	+8.0000000E+02	+6.2000000E+02	+7.9826171E+02
51.0	3	+8.7000000E+02	+7.8102496E+01	+9.6000000E+02	+8.2000000E+02	+8.0069628E+02
52.0	12	+8.2500000E+02	+1.6908846E+02	+1.1700000E+03	+4.9000000E+02	+8.0313085E+02
53.0	9	+8.0888867E+02	+1.6706618E+02	+9.9000000E+02	+5.4000000E+02	+8.0556518E+02
54.0	9	+8.7444433E+02	+1.7342946E+02	+1.1500000E+03	+6.9000000E+02	+8.0799975E+02
56.0	3	+7.4000000E+02	+1.1789826E+02	+8.7000000E+02	+6.4000000E+02	+8.1286889E+02
57.0	6	+8.4333325E+02	+1.1147495E+02	+1.0200000E+03	+7.1000000E+02	+8.1530322E+02
59.0	3	+6.5666650E+02	+4.1633319E+01	+6.9000000E+02	+6.1000000E+02	+8.2017236E+02
60.0	3	+8.9333325E+02	+5.6862407E+01	+9.4000000E+02	+8.3000000E+02	+8.2260693E+02
62.0	3	+1.0633332E+03	+3.0550504E+01	+1.0900000E+03	+1.0300000E+03	+8.2747583E+02
64.0	6	+6.1166650E+02	+1.1356349E+02	+7.4000000E+02	+4.9000000E+02	+8.3234472E+02
66.0	3	+8.0333325E+02	+2.7300793E+02	+9.3000000E+02	+4.9000000E+02	+8.3721386E+02
69.0	3	+8.1666650E+02	+8.6216781E+01	+9.1000000E+02	+7.4000000E+02	+8.4451733E+02
72.0	3	+9.8000000E+02	+2.9999999E+01	+1.0100000E+03	+9.5000000E+02	+8.5182080E+02
77.0	3	+5.4333325E+02	+5.7735026E+00	+5.5000000E+02	+5.4000000E+02	+8.6399340E+02
78.0	3	+6.8333325E+02	+3.0550504E+01	+7.1000000E+02	+6.5000000E+02	+8.6642797E+02
80.0	3	+9.7666650E+02	+1.1900225E+02	+1.1100000E+03	+9.0000000E+02	+8.7129687E+02

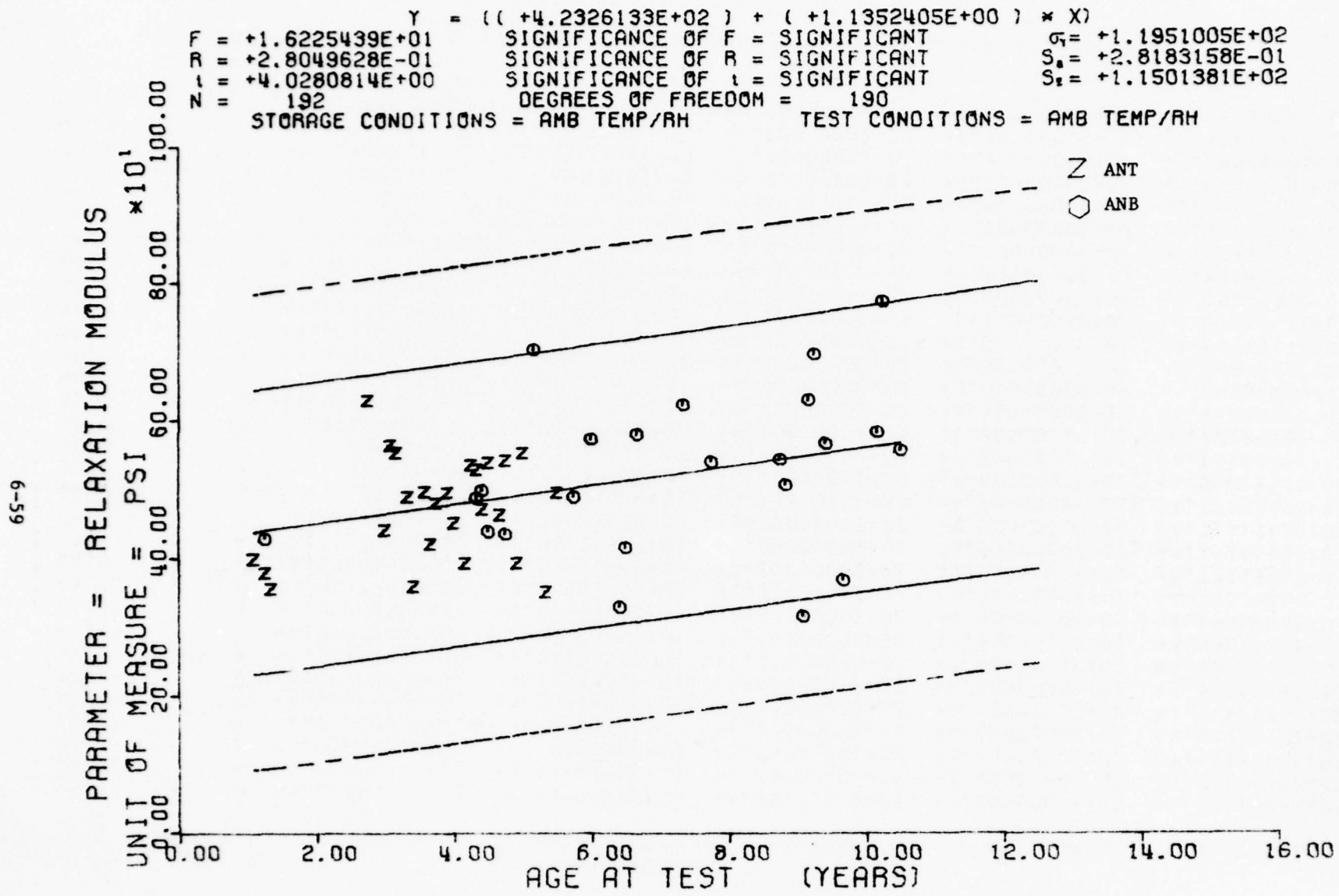
ANB 3066 PROPELNT (ANT & ANB UNLND, P POLYMER) STRESS RELAX MODULUS @ 10 SEC 1%

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
88.0	3	+8.7333325E+02	+2.7098585E+02	+1.1300000E+03	+5.9000000E+02	+8.9077294E+02
93.0	3	+8.8000000E+02	+2.9999999E+01	+9.1000000E+02	+8.5000000E+02	+9.0294531E+02
105.0	6	+9.6666650E+02	+1.9469634E+02	+1.2000000E+03	+7.1000000E+02	+9.3215942E+02
106.0	3	+9.1333325E+02	+2.1221058E+02	+1.1500000E+03	+7.4000000E+02	+9.3459399E+02
109.0	3	+5.5000000E+02	+0.0000000E+27	+5.5000000E+02	+5.5000000E+02	+9.4189746E+02
110.0	3	+1.1233332E+03	+1.7387735E+02	+1.3200000E+03	+9.9000000E+02	+9.4433203E+02
111.0	6	+1.1316665E+03	+1.7964375E+02	+1.4300000E+03	+9.3000000E+02	+9.4676635E+02
113.0	3	+9.6000000E+02	+4.5825756E+01	+1.0000000E+03	+9.1000000E+02	+9.5163549E+02
116.0	6	+6.7166650E+02	+1.8411047E+02	+9.9000000E+02	+4.9000000E+02	+9.5893896E+02
122.0	3	+1.0333332E+03	+7.5718777E+01	+1.1200000E+03	+9.8000000E+02	+9.7354589E+02
123.0	3	+1.4233332E+03	+1.0969655E+02	+1.5500000E+03	+1.3600000E+03	+9.7598046E+02
126.0	3	+9.8333325E+02	+4.0414518E+01	+1.0200000E+03	+9.4000000E+02	+9.8328393E+02

ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) STRESS RELAX MODULUS @ 10 SEC 1%



ANB 3066 PROPLLNT (ANT & ANB UNLND, P POLYMER) STRESS RELAX MOD @ 1000 SEC 1%

FIGURE 6-29

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+4.0000000E+02	+1.9999999E+01	+4.2000000E+02	+3.8000000E+02	+4.3801928E+02
15.0	6	+4.0500000E+02	+3.6742346E+01	+4.7000000E+02	+3.7000000E+02	+4.4028979E+02
16.0	3	+3.5666650E+02	+1.5275252E+01	+3.7000000E+02	+3.4000000E+02	+4.4142504E+02
33.0	3	+6.3000000E+02	+3.6055512E+01	+6.7000000E+02	+6.0000000E+02	+4.6072412E+02
36.0	6	+4.4166650E+02	+4.7081489E+01	+5.1000000E+02	+3.9000000E+02	+4.6412988E+02
37.0	6	+5.6500000E+02	+9.1378334E+01	+6.6000000E+02	+4.5000000E+02	+4.6526513E+02
38.0	3	+5.5333325E+02	+1.5275252E+01	+5.7000000E+02	+5.4000000E+02	+4.6640039E+02
40.0	3	+4.9000000E+02	+7.8102496E+01	+5.8000000E+02	+4.4000000E+02	+4.6867089E+02
41.0	3	+3.6000000E+02	+9.9999999E+00	+3.7000000E+02	+3.5000000E+02	+4.6980615E+02
43.0	9	+4.9777758E+02	+7.8386506E+01	+5.7000000E+02	+3.7000000E+02	+4.7207666E+02
44.0	6	+4.2166650E+02	+6.1779176E+01	+5.2000000E+02	+3.5000000E+02	+4.7321191E+02
45.0	6	+4.8166650E+02	+9.0645830E+01	+5.8000000E+02	+3.9000000E+02	+4.7434692E+02
47.0	6	+4.9666650E+02	+1.3662601E+01	+5.2000000E+02	+4.8000000E+02	+4.7661743E+02
48.0	6	+4.5166650E+02	+3.7638632E+01	+5.2000000E+02	+4.2000000E+02	+4.7775268E+02
50.0	3	+3.9333325E+02	+3.7859388E+01	+4.2000000E+02	+3.5000000E+02	+4.8002319E+02
51.0	3	+5.3666650E+02	+4.6188021E+01	+5.9000000E+02	+5.1000000E+02	+4.8115844E+02
52.0	12	+4.9916650E+02	+1.0246581E+02	+6.9000000E+02	+2.8000000E+02	+4.8229370E+02
53.0	9	+4.8111108E+02	+9.5189868E+01	+5.7000000E+02	+3.3000000E+02	+4.8342895E+02
54.0	9	+5.0666650E+02	+1.1884864E+02	+6.9000000E+02	+3.9000000E+02	+4.8456420E+02
56.0	3	+4.6333325E+02	+7.0945988E+01	+5.4000000E+02	+4.0000000E+02	+4.8683471E+02
57.0	6	+4.9000000E+02	+7.5099933E+01	+6.1000000E+02	+4.0000000E+02	+4.8796997E+02
59.0	3	+3.9333325E+02	+2.0816659E+01	+4.1000000E+02	+3.7000000E+02	+4.9024047E+02
60.0	3	+5.5333325E+02	+3.0550504E+01	+5.8000000E+02	+5.2000000E+02	+4.9137573E+02
62.0	3	+7.0333325E+02	+2.8867513E+01	+7.2000000E+02	+6.7000000E+02	+4.9364624E+02
64.0	6	+3.5166650E+02	+7.5476265E+01	+4.3000000E+02	+2.7000000E+02	+4.9591650E+02
66.0	3	+4.9666650E+02	+1.6196707E+02	+6.0000000E+02	+3.1000000E+02	+4.9818701E+02
69.0	3	+4.9000000E+02	+6.0827625E+01	+5.6000000E+02	+4.5000000E+02	+5.0159277E+02
72.0	3	+5.7333325E+02	+2.8867513E+01	+5.9000000E+02	+5.4000000E+02	+5.0499853E+02
77.0	3	+3.3000000E+02	+0.0000000E+99	+3.3000000E+02	+3.3000000E+02	+5.1067480E+02
78.0	3	+4.1666650E+02	+5.7735026E+01	+4.2000000E+02	+4.1000000E+02	+5.1181005E+02
80.0	3	+5.8000000E+02	+7.8102496E+01	+6.7000000E+02	+5.3000000E+02	+5.1408056E+02

AIR 3066 PROPELNT (ANT & ANR UNLND, P POLYMER) STRESS RELAX MOD @ 1000 SEC 1%

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
88.0	3	+6.2333325E+02	+2.6006409E+02	+8.8000000E+02	+3.6000000E+02	+5.2316235E+02
93.0	3	+5.4000000E+02	+1.9999999E+01	+5.6000000E+02	+5.2000000E+02	+5.2883862E+02
105.0	6	+5.4333325E+02	+1.1724617E+02	+6.9000000E+02	+3.8000000E+02	+5.4246142E+02
106.0	3	+5.0666650E+02	+1.1590225E+02	+6.4000000E+02	+4.3000000E+02	+5.4359667E+02
109.0	3	+3.1666650E+02	+5.7735026E+00	+3.2000000E+02	+3.1000000E+02	+5.4700244E+02
110.0	3	+6.3000000E+02	+1.1269427E+02	+7.6000000E+02	+5.6000000E+02	+5.4813769E+02
111.0	6	+6.9666650E+02	+1.3952299E+02	+9.3000000E+02	+5.3000000E+02	+5.4927294E+02
113.0	3	+5.6666650E+02	+2.5166114E+01	+5.9000000E+02	+5.4000000E+02	+5.5154345E+02
116.0	6	+3.6833325E+02	+9.8268340E+01	+5.5000000E+02	+2.8000000E+02	+5.5494921E+02
122.0	3	+5.8333325E+02	+4.9328828E+01	+6.4000000E+02	+5.5000000E+02	+5.6176049E+02
123.0	3	+7.7333325E+02	+4.9328828E+01	+8.3000000E+02	+7.4000000E+02	+5.6289575E+02
126.0	3	+5.5666650E+02	+4.0414518E+01	+6.0000000E+02	+5.2000000E+02	+5.6630151E+02

ANB 3066 PROPELLANT (ANT & ANB UNLND, P POLYMER) STRESS RELAX MOD @ 1000 SEC 1%

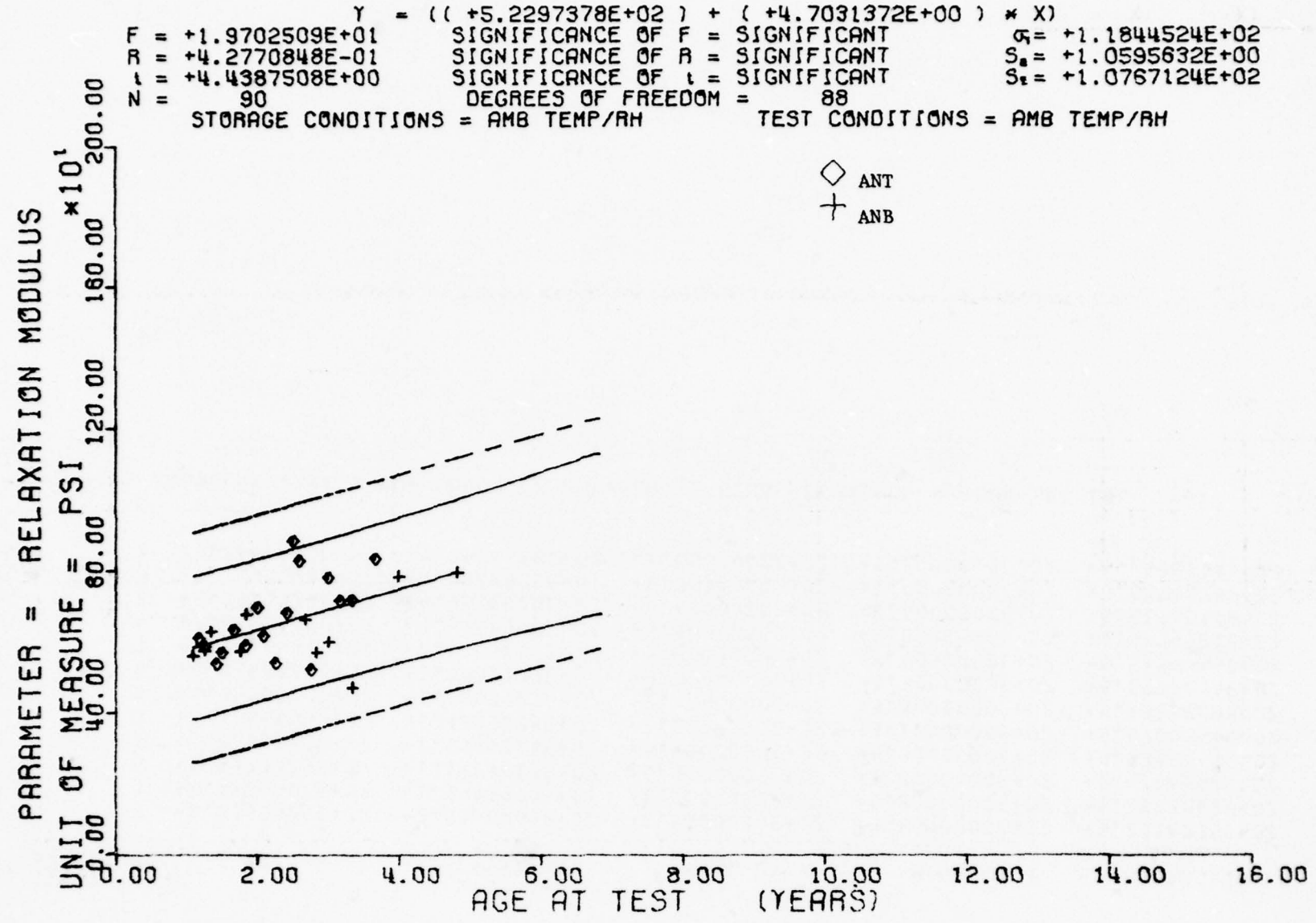

Y = ((+5.2297378E+02) + (+4.7031372E+00) * X)
F = +1.9702509E+01 SIGNIFICANCE OF F = SIGNIFICANT σt = +1.1844524E+02
R = +4.2770848E-01 SIGNIFICANCE OF R = SIGNIFICANT Sa = +1.0595632E+00
t = +4.4387508E+00 SIGNIFICANCE OF t = SIGNIFICANT St = +1.0767124E+02
N = 90 DEGREES OF FREEDOM = 88
STORAGE CONDITIONS = AMB TEMP/RH TEST CONDITIONS = AMB TEMP/RH
ANT
ANB
PARAMETER = RELAXATION MODULUS
UNIT OF MEASURE = PSI *10¹
0.00
40.00
80.00
120.00
160.00
200.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPLLNT (ANT & ANB LINED, P POLYMER) STRESS RELAX MODULUS @ 10 SEC 1%

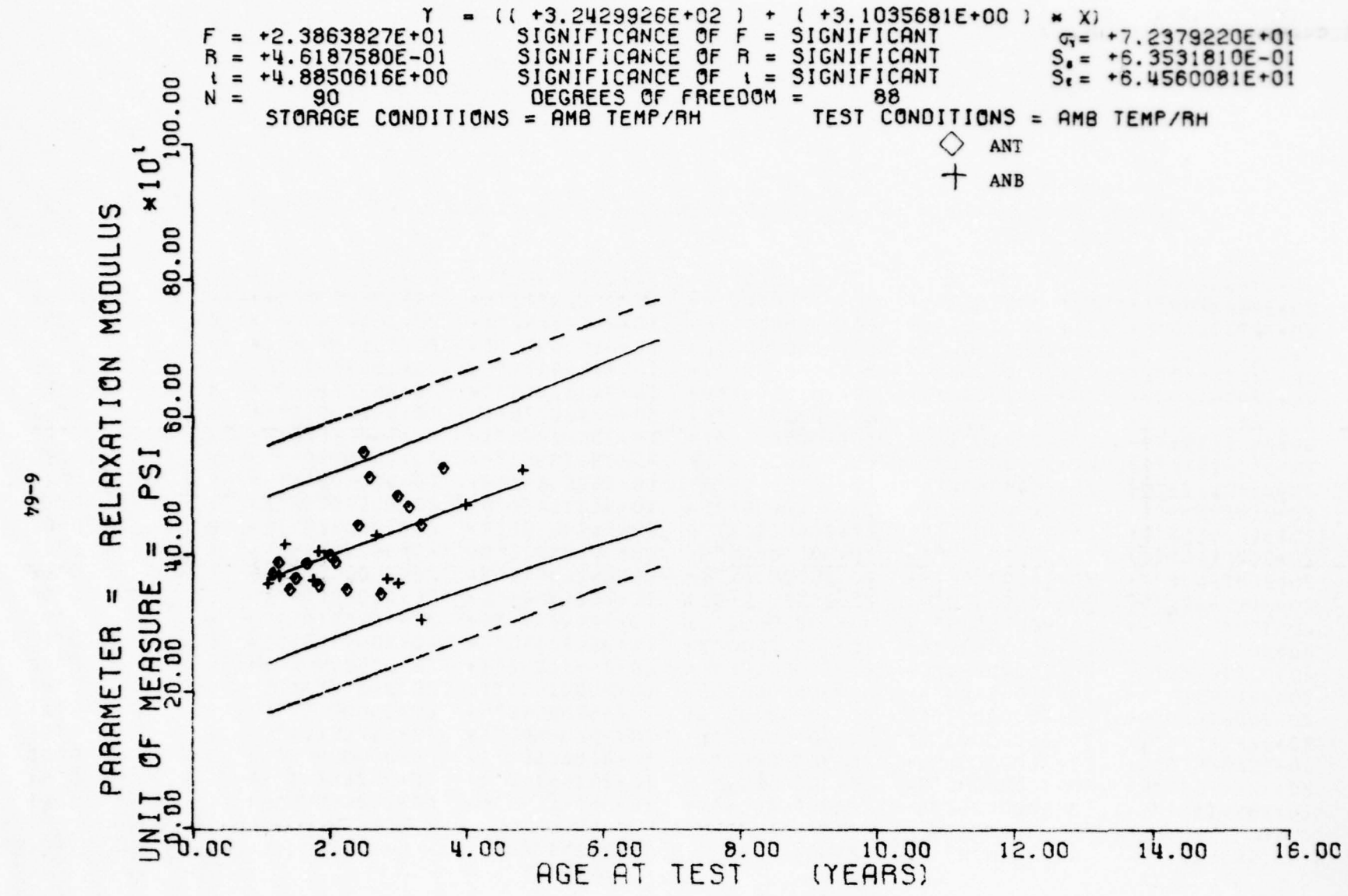
FIGURE 6-30

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+5.6333325E+02	+4.1633319E+01	+6.1000000E+02	+5.3000000E+02	+5.8411450E+02
14.0	3	+6.1333325E+02	+4.0414518E+01	+6.5000000E+02	+5.7000000E+02	+5.8881762E+02
15.0	4	+5.8250000E+02	+1.4999999E+01	+6.0000000E+02	+5.7000000E+02	+5.9352075E+02
16.0	3	+6.3333325E+02	+1.0692676E+02	+7.0000000E+02	+5.1000000E+02	+5.9822387E+02
17.0	3	+5.4000000E+02	+4.3588989E+01	+5.9000000E+02	+5.1000000E+02	+6.0292700E+02
18.0	3	+5.7333325E+02	+1.1547005E+01	+5.8000000E+02	+5.6000000E+02	+6.0763012E+02
20.0	6	+6.3666650E+02	+1.2027745E+02	+7.9000000E+02	+5.1000000E+02	+6.1703637E+02
21.0	3	+5.7666650E+02	+2.0816659E+01	+6.0000000E+02	+5.6000000E+02	+6.2173950E+02
22.0	6	+6.3833325E+02	+5.4558836E+01	+7.0000000E+02	+5.6000000E+02	+6.2644262E+02
24.0	3	+7.0000000E+02	+3.4641016E+01	+7.4000000E+02	+6.8000000E+02	+6.3584887E+02
25.0	3	+6.2000000E+02	+4.3588989E+01	+6.5000000E+02	+5.7000000E+02	+6.4055200E+02
27.0	3	+5.4333325E+02	+5.7735026E+00	+5.5000000E+02	+5.4000000E+02	+6.4995825E+02
29.0	8	+6.8625000E+02	+1.0568653E+02	+8.2000000E+02	+5.3000000E+02	+6.5936474E+02
30.0	3	+8.8666650E+02	+6.0277137E+01	+9.5000000E+02	+8.3000000E+02	+6.6406787E+02
31.0	3	+8.3000000E+02	+6.5574385E+01	+9.0000000E+02	+7.7000000E+02	+6.6877099E+02
32.0	3	+6.6666650E+02	+4.7258156E+01	+7.2000000E+02	+6.3000000E+02	+6.7347412E+02
33.0	3	+5.2333325E+02	+1.5307950E+02	+7.0000000E+02	+4.3000000E+02	+6.7817724E+02
34.0	3	+5.7333325E+02	+1.5275252E+01	+5.9000000E+02	+5.6000000E+02	+6.8288037E+02
36.0	6	+6.9333325E+02	+1.1307814E+02	+8.2000000E+02	+5.2000000E+02	+6.9228662E+02
38.0	3	+7.1666650E+02	+3.5118845E+01	+7.5000000E+02	+6.8000000E+02	+7.0169287E+02
40.0	6	+5.9666650E+02	+1.4665151E+02	+7.7000000E+02	+4.3000000E+02	+7.1109912E+02
44.0	3	+8.3666650E+02	+7.7674534E+01	+9.0000000E+02	+7.5000000E+02	+7.2991162E+02
48.0	3	+7.8666650E+02	+9.2915732E+01	+8.5000000E+02	+6.8000000E+02	+7.4872436E+02
58.0	3	+7.0666650E+02	+4.7258156E+01	+8.5000000E+02	+7.6000000E+02	+7.9575561E+02

ANR 3066 PROPELLNT (ANT & ANR LINED, P POLYMER) STRESS RELAX MODULUS @ 10 SEC 1%



ANB 3066 PROPLLNT (ANT & ANB LINED, P POLYMER) STRESS RELAX MOD @ 1000 SEC 1%

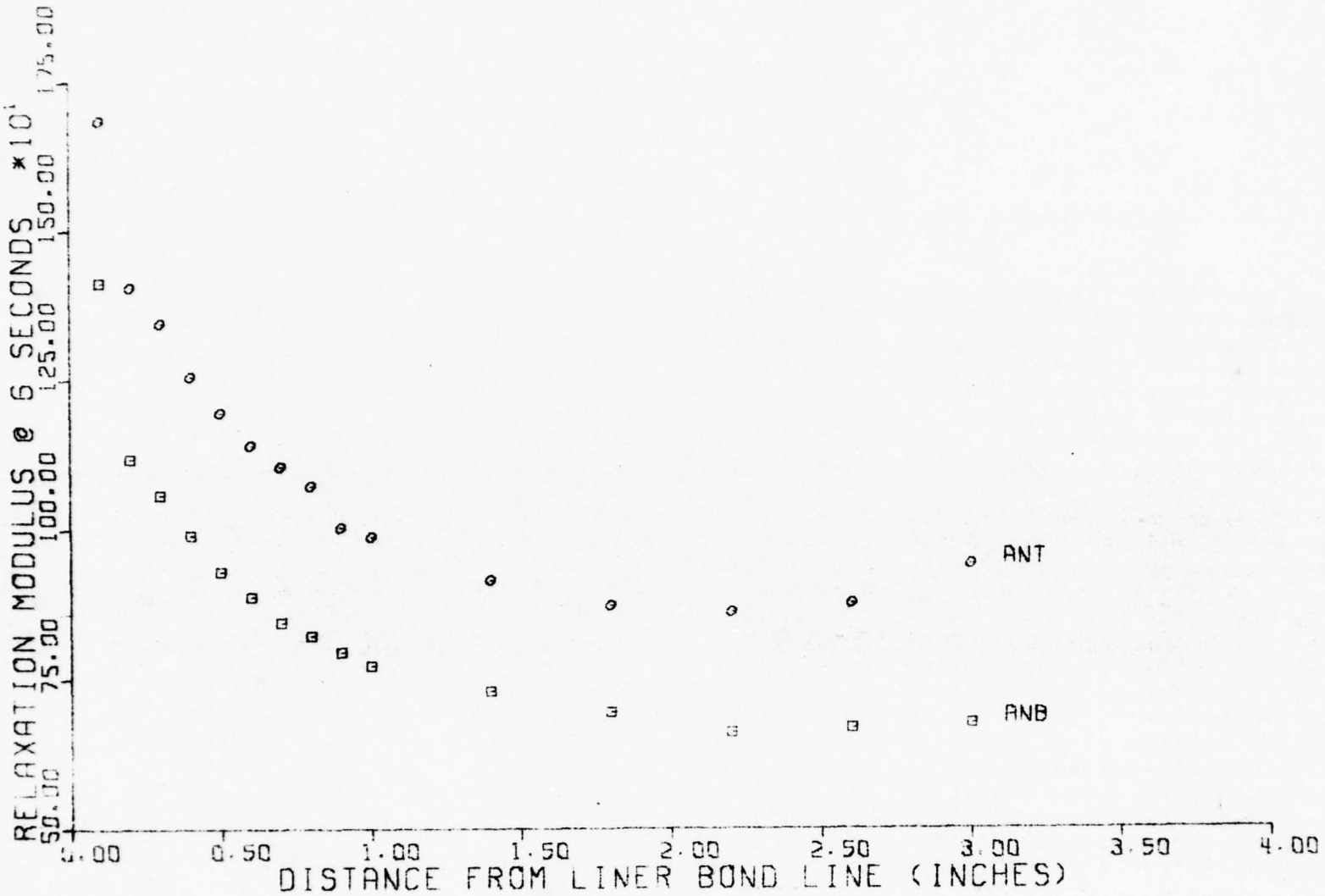
FIGURE 6-31

**** LINEAR REGRESSION ANALYSIS ****

*** ANALYSIS OF TIME SERIES ***

AGE (MONTHS)	SPECIMENS PER GROUP	MEAN Y	STANDARD DEVIATION	MAXIMUM Y	MINIMUM Y	REGRESSION Y
13.0	3	+3.6000000E+02	+1.7320508E+01	+3.8000000E+02	+3.5000000E+02	+3.6464550E+02
14.0	3	+3.7333325E+02	+3.0550504E+01	+4.0000000E+02	+3.4000000E+02	+3.6774902E+02
15.0	4	+3.7500000E+02	+2.3804761E+01	+4.0000000E+02	+3.5000000E+02	+3.7085253E+02
16.0	3	+4.1666650E+02	+4.0414518E+01	+4.6000000E+02	+3.7000000E+02	+3.7395629E+02
17.0	3	+3.5000000E+02	+2.9999999E+01	+3.8000000E+02	+3.2000000E+02	+3.7705981E+02
18.0	3	+3.6666650E+02	+5.7735026E+00	+3.7000000E+02	+3.6000000E+02	+3.8016333E+02
20.0	6	+3.8833325E+02	+4.4007575E+01	+4.4000000E+02	+3.4000000E+02	+3.8637060E+02
21.0	3	+3.6333325E+02	+2.3094010E+01	+3.9000000E+02	+3.5000000E+02	+3.8947412E+02
22.0	6	+3.8166650E+02	+3.0605010E+01	+4.2000000E+02	+3.4000000E+02	+3.9257763E+02
24.0	3	+4.0000000E+02	+1.9999999E+01	+4.2000000E+02	+3.8000000E+02	+3.9878466E+02
25.0	3	+3.9000000E+02	+2.6457513E+01	+4.1000000E+02	+3.6000000E+02	+4.0188842E+02
27.0	3	+3.5000000E+02	+0.0000000E+31	+3.5000000E+02	+3.5000000E+02	+4.0809545E+02
29.0	8	+4.4375000E+02	+6.9680392E+01	+5.3000000E+02	+3.5000000E+02	+4.1430273E+02
30.0	3	+5.5000000E+02	+2.9999999E+01	+5.8000000E+02	+5.2000000E+02	+4.1740625E+02
31.0	3	+5.1333325E+02	+4.5092497E+01	+5.6000000E+02	+4.7000000E+02	+4.2050976E+02
32.0	3	+4.3000000E+02	+3.6055512E+01	+4.7000000E+02	+4.0000000E+02	+4.2361328E+02
33.0	3	+3.4333325E+02	+1.0115993E+02	+4.6000000E+02	+2.8000000E+02	+4.2671679E+02
34.0	3	+3.6666650E+02	+2.5166114E+01	+3.9000000E+02	+3.4000000E+02	+4.2982055E+02
36.0	6	+4.2333325E+02	+8.1404340E+01	+5.1000000E+02	+3.1000000E+02	+4.3602758E+02
38.0	3	+4.7000000E+02	+1.9999999E+01	+4.9000000E+02	+4.5000000E+02	+4.4223461E+02
40.0	6	+3.7500000E+02	+8.7120606E+01	+4.7000000E+02	+2.7000000E+02	+4.4844189E+02
44.0	3	+5.2666650E+02	+5.1316014E+01	+5.7000000E+02	+4.7000000E+02	+4.6085620E+02
48.0	3	+4.7333325E+02	+6.5064070E+01	+5.4000000E+02	+4.1000000E+02	+4.7327050E+02
56.0	3	+5.2333325E+02	+5.7735026E+00	+5.3000000E+02	+5.2000000E+02	+5.0430615E+02

AMR 3066 PROPELLNT (ANT 5 ANB LINED, P POLYMER) STRESS RELAX MOD @ 1000 SEC 1%



99-9

ANB/ANT GRADIENT STRESS RELAXATION MODULUS

FIGURE 6-32

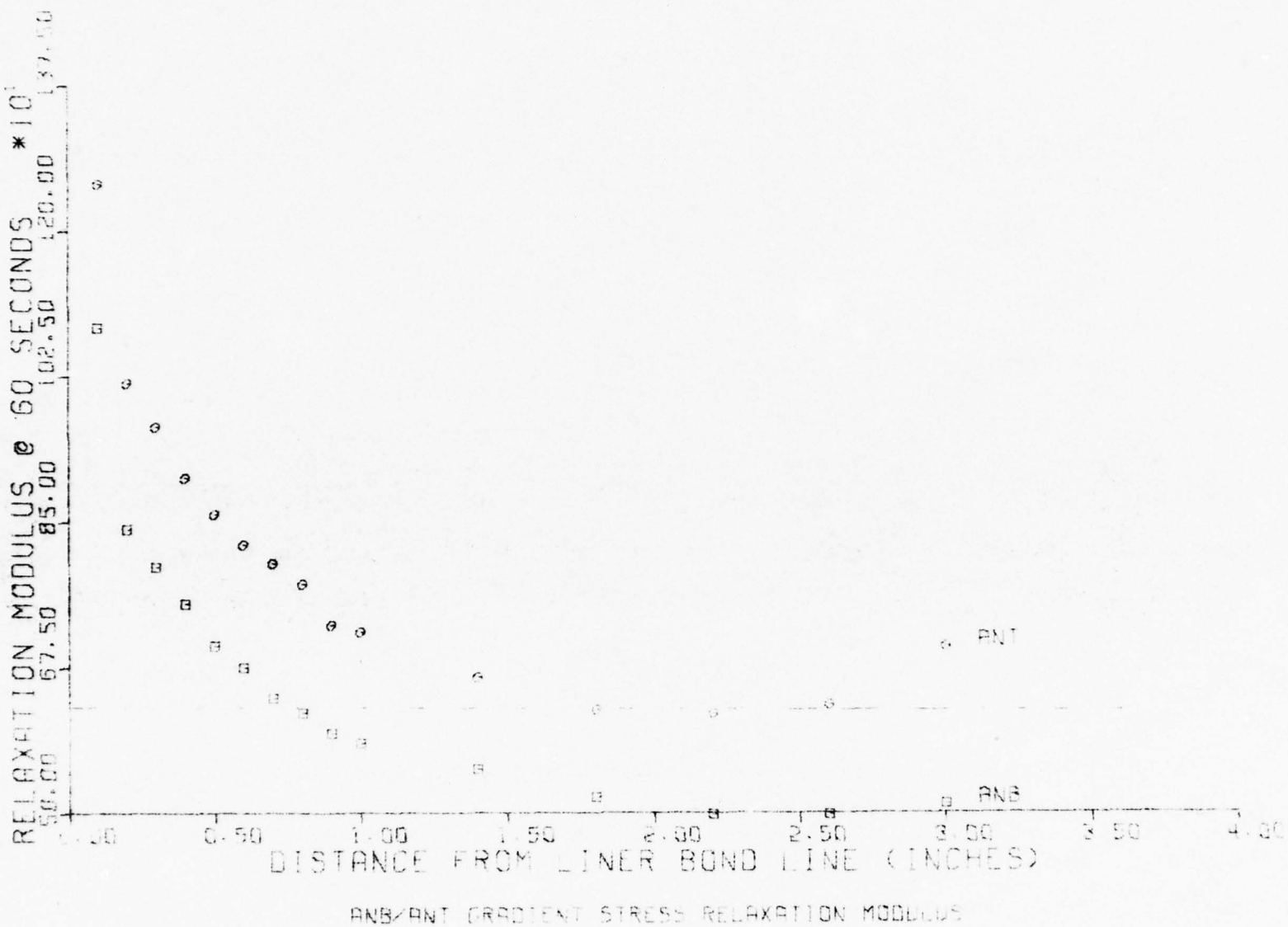

RELAXATION MODULUS @ 60 SECONDS *10
50.00
67.50
85.00
102.50
120.00
ANT
ANB
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
DISTANCE FROM LINER BOND LINE (INCHES)
ANB/ANT GRADIENT STRESS RELAXATION MODULUS

FIGURE 6-33

RELAXATION MODULUS @ 120 SEC *10⁶
40.00
57.50
75.00
92.50
110.00
0.50
1.00
1.50
2.00
2.50
3.00
DISTANCE FROM LIVER BOND LINE (INCHES)
ANB/ANT (600°F) STRESS RELAXATION MODULUS
ANT
ANB

FIGURE 6-34

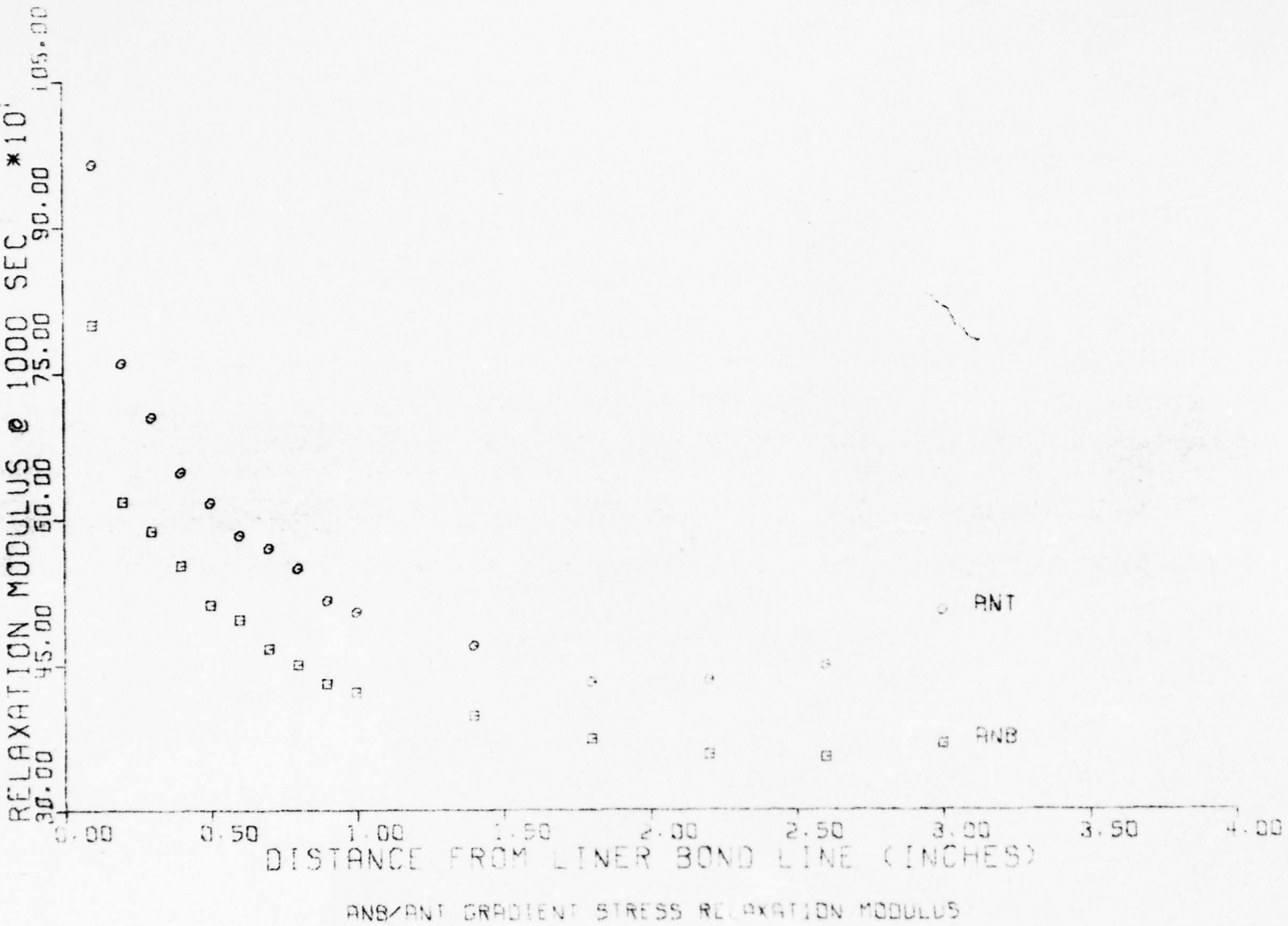

RELAXATION MODULUS @ 1000 SEC *10¹
105.00
90.00
75.00
60.00
45.00
30.00
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
DISTANCE FROM LINER BOND LINE (INCHES)
ANT
ANB
ANB/ANT GRADIENT STRESS RELAXATION MODULUS

FIGURE 6-35

SECTION VII

THERMAL COEFFICIENT OF LINEAR EXPANSION

Thermal coefficient of linear expansion (TCLE) is run on the DuPont 990 TMA using an expansion probe. The specimen used is a wafer approximately .200" (.508 cm) thick by .33" diameter (.84 cm). The specimen is cooled with liquid nitrogen to -110°C then heated at 5°C/min to 40°C and the glass point (Tg), TCLE below Tg and above Tg are determined.

In the past, TCLE above Tg has been obtained from a line extrapolated from -110°C to plus 40°C. This has resulted in high values of TCLE. Thermal expansion of propellant is not linear and varies considerably when determined in 20° increments from Tg to 40°C. The average value from incremental values is now being used and previous data is being revised to reflect this change as well as to enter data from recent testing.

Based on available data, unlined cartons show a significant increase in TCLE with a decrease in glass point. Regression analysis will be given in the next report.

SECTION VIII
CASE LINER BONDS

Cartons of propellant were lined with SD-851-2 liner/V45 rubber. In the preparation of the cartons, liner sometimes penetrates the propellant to a depth of 0.5 inches. Irregularities are most apparent on outer surfaces, and corners may be particularly affected by curvature of the insulation.

Liner color varies from a pale buff to a deep pink which apparently develops from the anti-oxidant used. In general, the pink liner tends to be sticky and strings out in tensile testing.

Aerojet did a study of 44 manufacturing variables to determine those which had a significant effect on liner bond strength. According to their report (MVS-1, June 76) several factors had a statistically significant effect on bond strength. Initial high bond strength and low insulation moisture content usually mean a longer time to degradation of the liner bond.

Constant load tensile and constant load shear data from several test periods have been summarized in Table 8-1. Tensile stress to cause failure in 100 minutes is slightly less than in the previous report, but above the 23.1 psi alert limit for storage for Stage II. Shear stress to cause failure at 100 minutes is slightly greater than in the previous report and is above the alert limit of 15.4 psi. Regressions are shown in Figures 8-1 through 8-4.

Mini-DPT data are given in Tables 8-2 and 8-3. These data have not been subjected to regression analysis. In many of the specimens two maxima occur and maximum stress may be early or late in the test. There does not appear to be any correlation between maximum stress, time to failure and type of failure.

Moisture in insulation has shown much variability and results have not been subjected to statistical analysis. This is also true of liner-swell ratio.

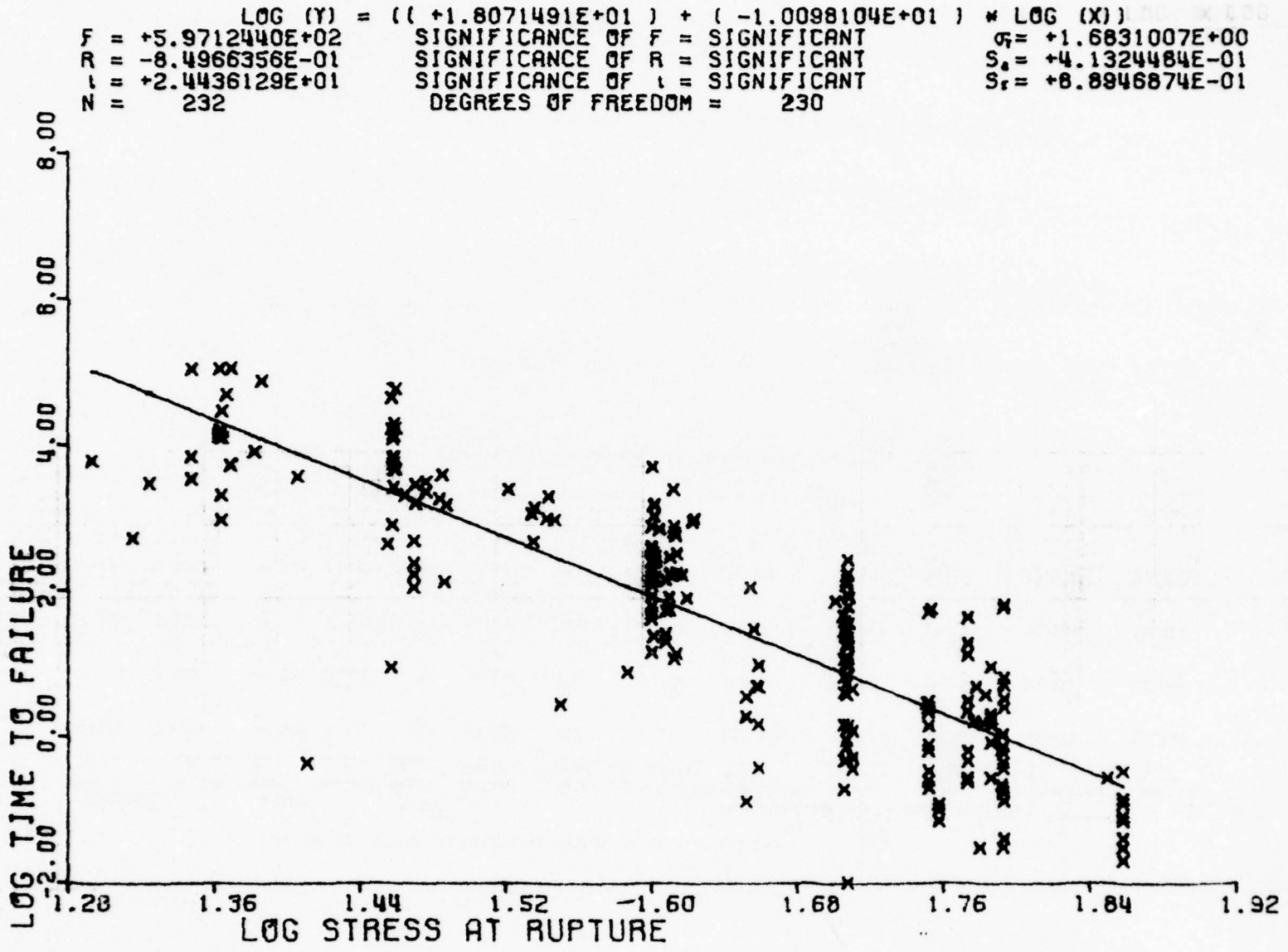
TABLE 8-1

SUMMARY OF REGRESSION ANALYSIS, STRESS VS TIME TO FAILURE

Test	Type	Intercept Mean a	Intercept Std Dev a	Slope Mean b	Slope Std Dev b	Std error[1] s_{yx}	Correl Coeff.	Nr of Spec	Predicted Stress To Cause Failure: Mean @ 1(min)	95% Confidence Limits UL	LL	Mean @100 min	95% Confidence Limits UL	LL
Constant Load Tensile	ANB	18.071	0.679	-10.098	0.413	0.889	-0.850	232	61.518	131.826	58.614	38.994	52.723	23.496
	ANT	16.572	0.663	-8.712	0.379	0.898	-0.814	270	79.799	186.209	72.277	46.989	64.417	25.003
Constant Load Shear	ANB	12.456	0.325	-7.595	0.202	0.573	-0.893	358	43.551	67.920	34.041	15.100	20.184	10.092
	ANT	12.794	0.529	-7.591	0.235	0.505	-0.893	269	48.529	80.538	43.752	18.408	23.878	12.972

Regression Model: log (time to failure) = a + b (log stress, psi)

(1) Std error stated in terms of log time since time is dependent variable



ANB CONSTANT LOAD TENSILE LOG TIME TO FAILURE VS LOG STRESS AT RUPTURE

Figure 8-1

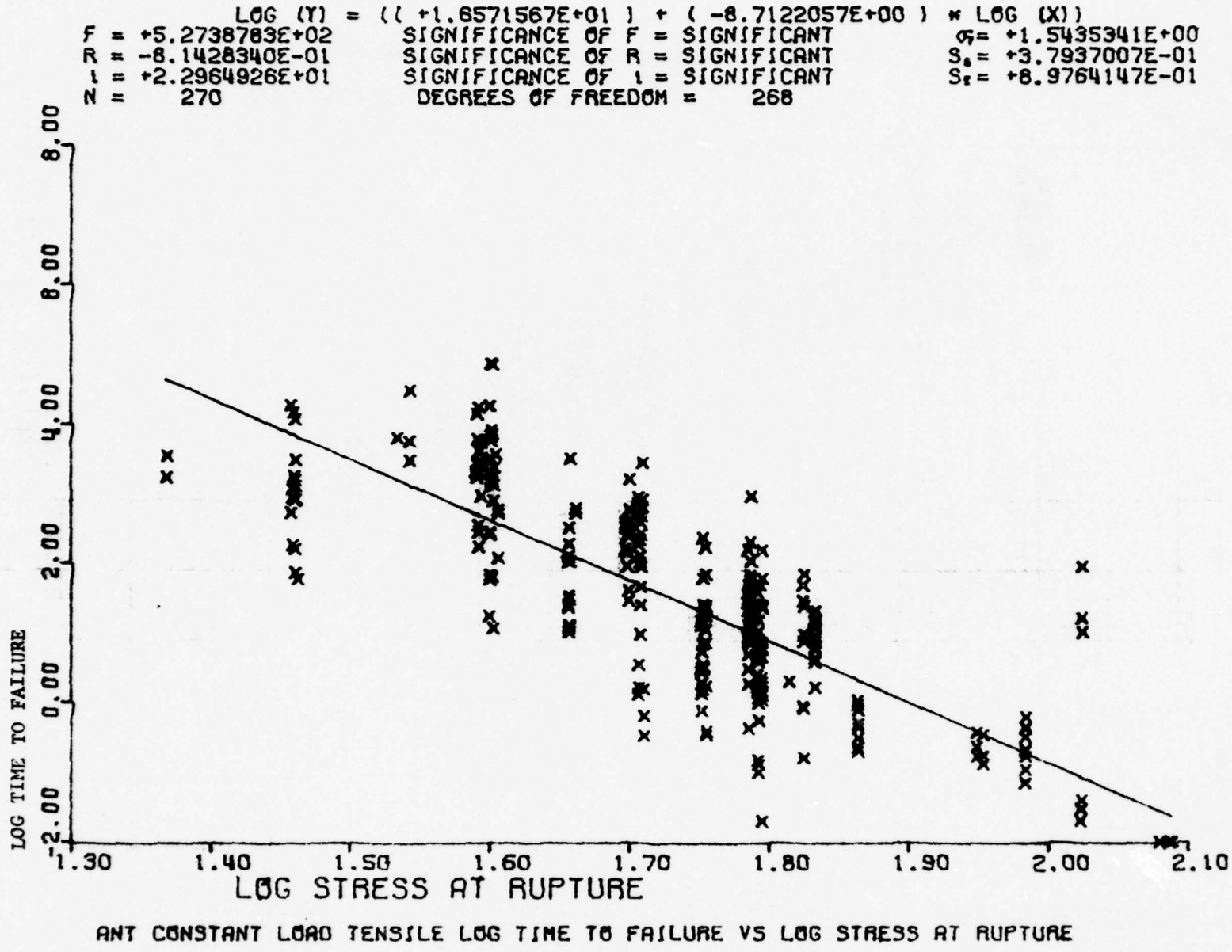

LOG (Y) = ((+1.6571567E+01) + (-8.7122057E+00) * LOG (X))
F = +5.2738783E+02
R = -8.1428340E-01
t = +2.2964926E+01
N = 270
SIGNIFICANCE OF F = SIGNIFICANT
SIGNIFICANCE OF R = SIGNIFICANT
SIGNIFICANCE OF t = SIGNIFICANT
DEGREES OF FREEDOM = 268
σ = +1.5435341E+00
S_b = +3.7937007E-01
S_r = +8.9764147E-01
LOG TIME TO FAILURE
8.00
8.00
4.00
2.00
0.00
-2.00
1.30
1.40
1.50
1.60
1.70
1.80
1.90
2.00
2.10
LOG STRESS AT RUPTURE
ANT CONSTANT LOAD TENSILE LOG TIME TO FAILURE VS LOG STRESS AT RUPTURE

Figure 8-2

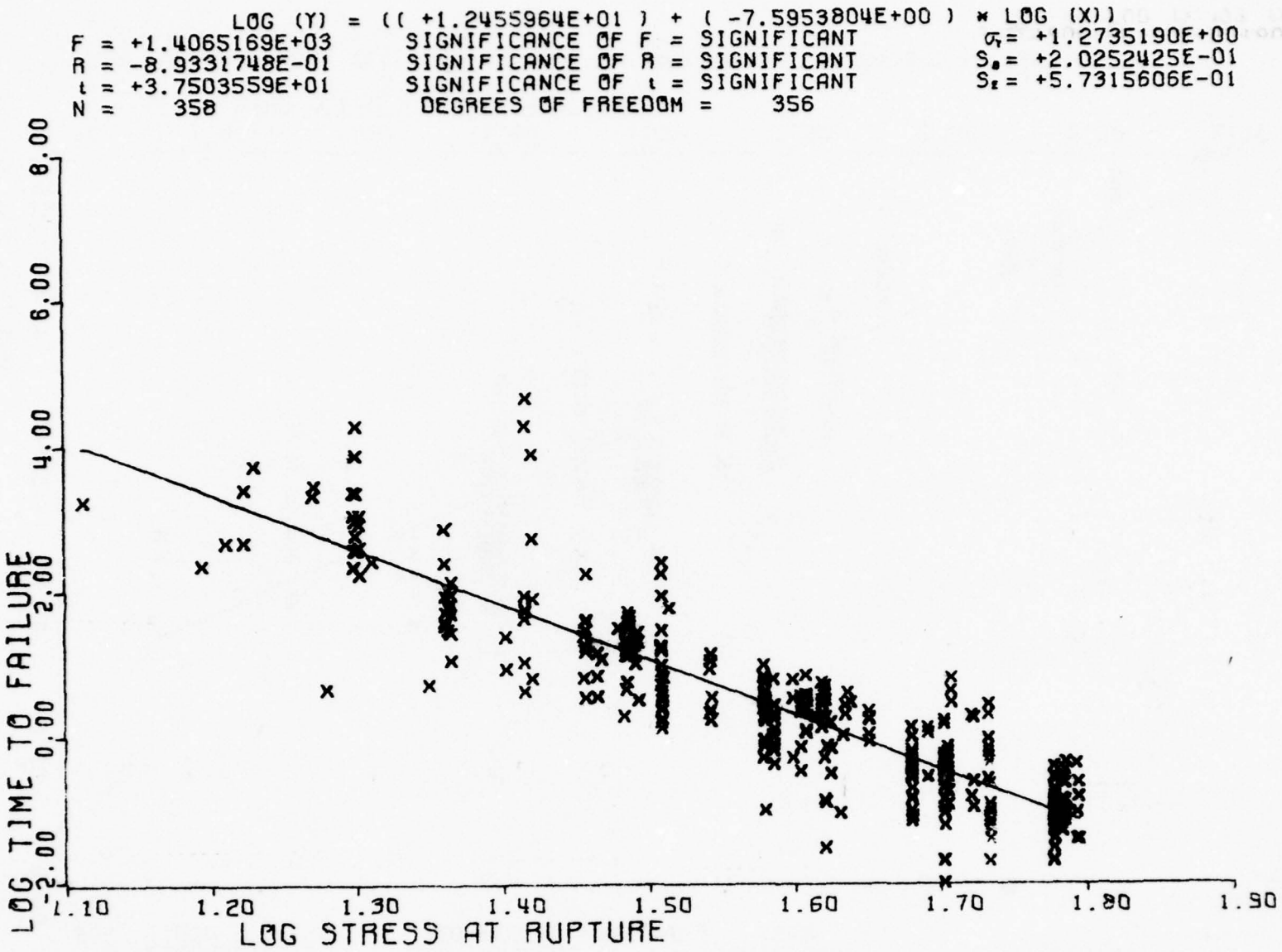
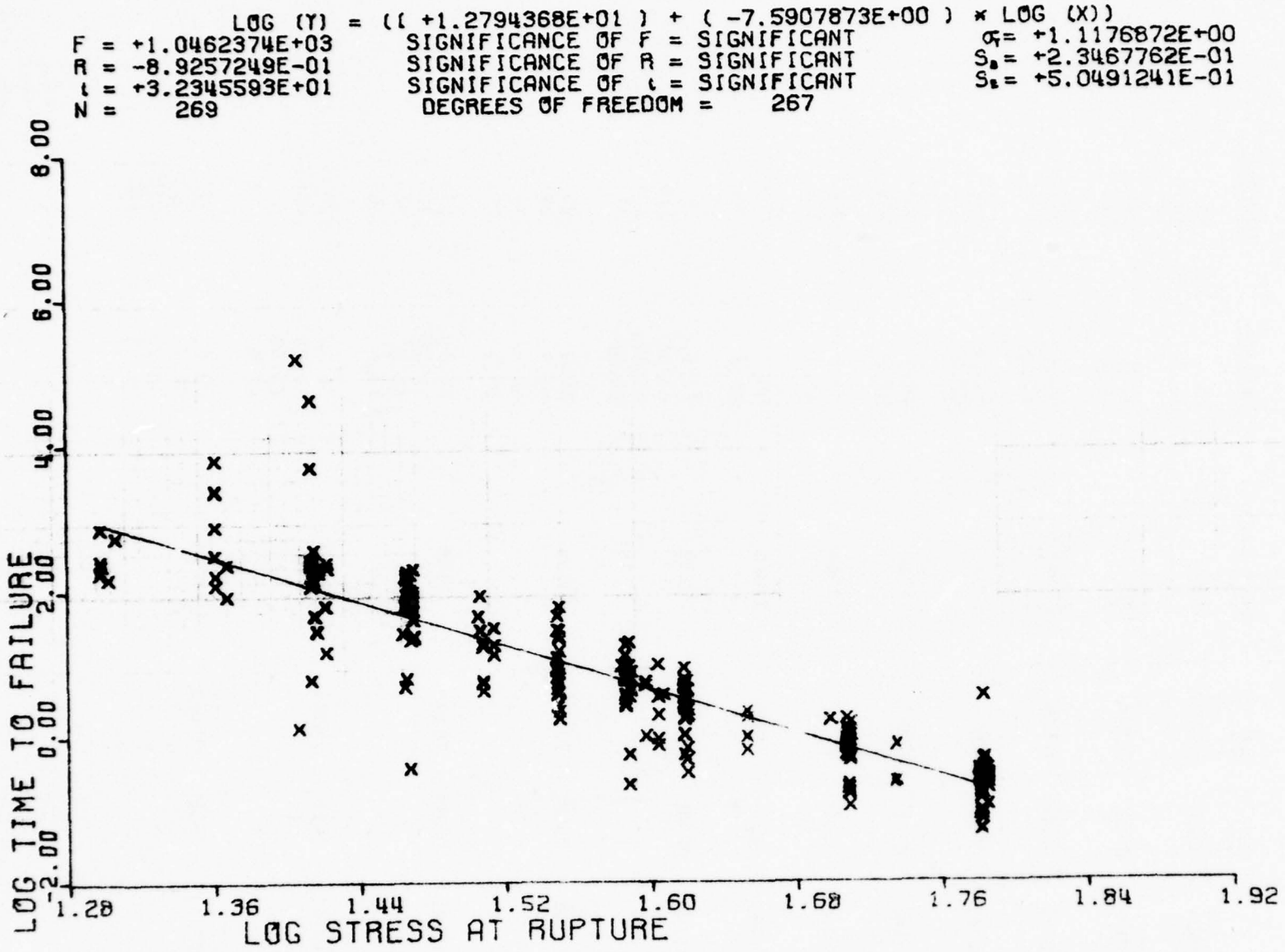

LOG (Y) = ((+1.2455964E+01) + (-7.5953804E+00) * LOG (X))
F = +1.4065169E+03 SIGNIFICANCE OF F = SIGNIFICANT
R = -8.9331748E-01 SIGNIFICANCE OF R = SIGNIFICANT
t = +3.7503559E+01 SIGNIFICANCE OF t = SIGNIFICANT
N = 358 DEGREES OF FREEDOM = 356
σ1 = +1.2735190E+00
Sa = +2.0252425E-01
Sε = +5.7315606E-01
8.00
6.00
4.00
2.00
0.00
-2.00
LOG TIME TO FAILURE
1.10
1.20
1.30
1.40
1.50
1.60
1.70
1.80
1.90
LOG STRESS AT RUPTURE
ANB CONSTANT LOAD SHEAR LOG TIME TO FAILURE VS LOG STRESS AT RUPTURE

Figure 8-3



ANT CONSTANT LOAD SHEAR LOG TIME TO FAILURE VS LOG STRESS AT RUPTURE

Figure 8-4

TABLE 8-2
Mini-DPT Stage II

S/N	Lot	DOM	Test Data	Sm(psi)	tm(min)
AA21024	052G	72207	77046	28	.24
				16.2	.165
AA21036	052G	72244	77046	42.5	.04
				58.6	.371
AA21062	053G	72294	77046	64.4	.302
				61.9	.294
AA21071	053G	72307	77046	82.78	.125
				102.1	.075
AA21462	066P	76008	77046	72.3	.076
				87.1	.059
AA21448	067P	75307	77046	59.5	.05
				47.3	.188
AA21465	067P	76020	77046	90.5	.063
				96.7	.044
AA21140	054P	73121	78139	77.5	.06
				66.96	.185
				65.89	.234
				69.07	.27
AA21148	054P	73150	78139	50.0	.235
				55.5	.035
				64.57	.04
				56.5	.041
AA21329	062P	74196	78139	67.86	.315
				61.58	.225
				68.0	.249
				74.5	.387
AA21343	062P	74225	78139	58.74	.20
				68.03	.046
				61.53	.05
				65.8	.266
AA21379	063P	75073	78139	79.4	.132
				90.2	.051
				73.26	.136
				74.35	.160

TABLE 8-2 (cont)

S/N	Lot	DOM	Test Date	S_m(psi)	t_m(min)
AA21360	063P	74267	78139	46.49	.272
				62.71	.208
				60.16	.311
AA21459	068P	76005	78139	77.8	.048
				97.29	.054
				86.6	.09
AA21493	068P	76188	78139	104.15	.062
				89.20	.169
				109.14	.05
				90.86	.049
AA21522	069P	77018	78139	102.06	.062
				91.88	.056
				87.37	.104
				81.4	.077
AA21547	069P	77129	78139	86.23	.117
				78.67	.044
				81.73	.051

TABLE 8-3
Mini-DPT Stage III

S/N	DOM	Test Date	S_m(psi)	t_m(min)
7240019	72221	77053	56.7	.328
			62.3	.352
7240454	72247	70053	61.5	.197
			61.9	.053
7110013	72282	77053	96.0	.176
			87.5	.189
7110048	72300	77053	83.6	.156
			81.1	.120
712003	72335	77053	95.6	.057
			105.3	.061
7120036	73070	77053	81.8	.054
			86.6	.056
7130002	73115	77053	76.7	.245
			78.9	.237
7130018	73144	77053	121.3	.075
			114.1	.079
8190011	73241	77053	89.9	.242
			90.3	.054
8190038	73291	77053	81.3	.22
			84.2	.185
8250011	75337	77053	119.2	.066
			102.2	.065
8250022	76022	77053	105.7	.061
			105.9	.062
8200010	73339	78080	52.34	.054
			70.0	.09
			75.75	.035
			56.99	.138
8200037	74038	78080	80.0	.059
			84.08	.075
			76.52	.157
			64.94	.126

TABLE 8-3 (cont)
Mini-DPT Stage III

S/N	DOM	Test Date	S_m(psi)	t_m(min)
8220014	74255	78080	79.36	.045
			71.4	.126
			84.49	.038
8220030	74296	78080	84.32	.129
			85.71	.126
			90.06	.076
8230008	75027	78080	97.94	.062
			94.75	.031
8230031	75099	78080	89.79	.099
			67.41	.062
			93.59	.077
			79.72	.076
8240028	75212	78080	95.72	.041
			97.6	.051
			69.5	.111
			83.47	.095
8240042	75295	73080	104.54	.039
			42.0	.089
			93.59	.077
			84.24	.164
8260007	76190	73080	85.6	.096
			98.54	.073
			113.4	.041
			88.29	.077
8260032	76315	73080	88.6	.40
			83.24	.10
			101.43	.066

SECTION IX
HARDNESS

A Shore A Durometer is used to take initial and 10 second readings on dogbone ends.

Unlined cartons of ANB(G) propellant show a significant decrease in hardness, but lined cartons show a significant increase. ANB(P) propellant shows a significant increase in hardness for both unlined and lined cartons. ANT(P) lined cartons do not show a significant change while there is a significant increase for unlined cartons. ANA(G) cartons show a significant increase. Usually the intercept is higher for unlined cartons than lined cartons and the standard deviation (Sy) is greater.

A small scale comparison of hardness data was made between G and P polymer blocks, taking the first reading on the uncut surface of the carton. These data are shown in Tables 9-1 and 9-2. Each value is an average of five readings, using both sides of a dogbone. The cutting plans for lined and unlined cartons differ (see drawings A-1 and A-2). (Drawing A-3 shows the cutting plan for Thiokol's unlined cartons). Therefore, a true gradient exists only in the unlined cartons. The data do not reflect a trend, and in some cases, surface hardness is less than for the interior of the carton. No categorical statements can be made from this data, since there are differences between the two types of polymer and between lined and unlined cartons.

TABLE 9-1

HARDNESS - 10 Sec

UNLINED CARTONS
GTR Polymer

AA20850	64.2	63.9	62.8		62.2	62.0	63.9	62.9
20855	62.4	61.8	61.0	61.2	60.8	60.5	61.9	61.2
20862	61.8	66.0	65.0	65.0	64.4	65.0	64.8	65.0
AA20867	64.0	69.0	68.5	68.9	68.0	66.8	66.3	67.9
20872	66.4	68.9	68.1	69.4	68.2	67.0	67.7	68.2
20879	65.2	68.9	67.5	67.8	68.3	67.0	68.0	67.9
AA20939	66.6	71.6	70.4	70.6	71.0	70.0	70.0	70.6
20951	70.4	70.3	70.3	71.0	70.3	70.3	70.5	70.5
20964	67.4	68.7	68.2	68.7	69.0	68.3	69.5	68.7

UNLINED CARTONS
Phillips Polymer

	Surface	1	2	3	4	5	6	Average Thru The Blocks
AA20238	78.6	73.7	68.3	68.0	69.9	70.5	72.8	70.5
20243	80.6	71.5	67.8	68.0	69.3	68.5	71.3	69.3
20250	81.4	72.2	67.7	67.5	75.8	66.7	70.7	70.1
AA20255	76.0	68.7	66.2	66.7	68.5	69.5	70.8	68.4
20262	76.2	68.7	69.2	66.2	67.7	69.0	66.9	68.0
20285	78.2	67.7	65.7	64.0	64.3	67.5	69.5	66.5
AA20271	71.8	63.2	62.0	61.8	64.9	64.2	64.9	63.5
20298	66.6	61.2	62.3	60.8	63.5	63.0	64.1	62.5
20312	66.6	61.4	61.6	61.9	64.3	63.8	63.2	62.7
AA20611	68.8	69.0	68.9	69.7	70.2	70.5	72.0	70.0
20627	73.8	70.4	70.0	70.0	71.4	71.2	71.8	71.4
20659	76.6	70.4	70.0	69.2	70.7	71.3	72.9	70.8
AA20704	68.2	68.7	67.2	68.9	67.4	68.5	69.4	68.4
20712	68.0	69.9	69.2	69.6	68.4	68.7	67.7	68.9
20715	71.4	71.0	71.1	68.5	68.0	68.4	69.4	69.4
AA20814	72.8	71.8	68.2	67.2	66.4	66.5	71.0	68.5
20825	70.4	70.4	66.9	65.6	66.0	69.0	70.2	68.0
20844	71.4	71.2	70.3	69.3	66.5	68.0	68.9	69.0

TABLE 9-2

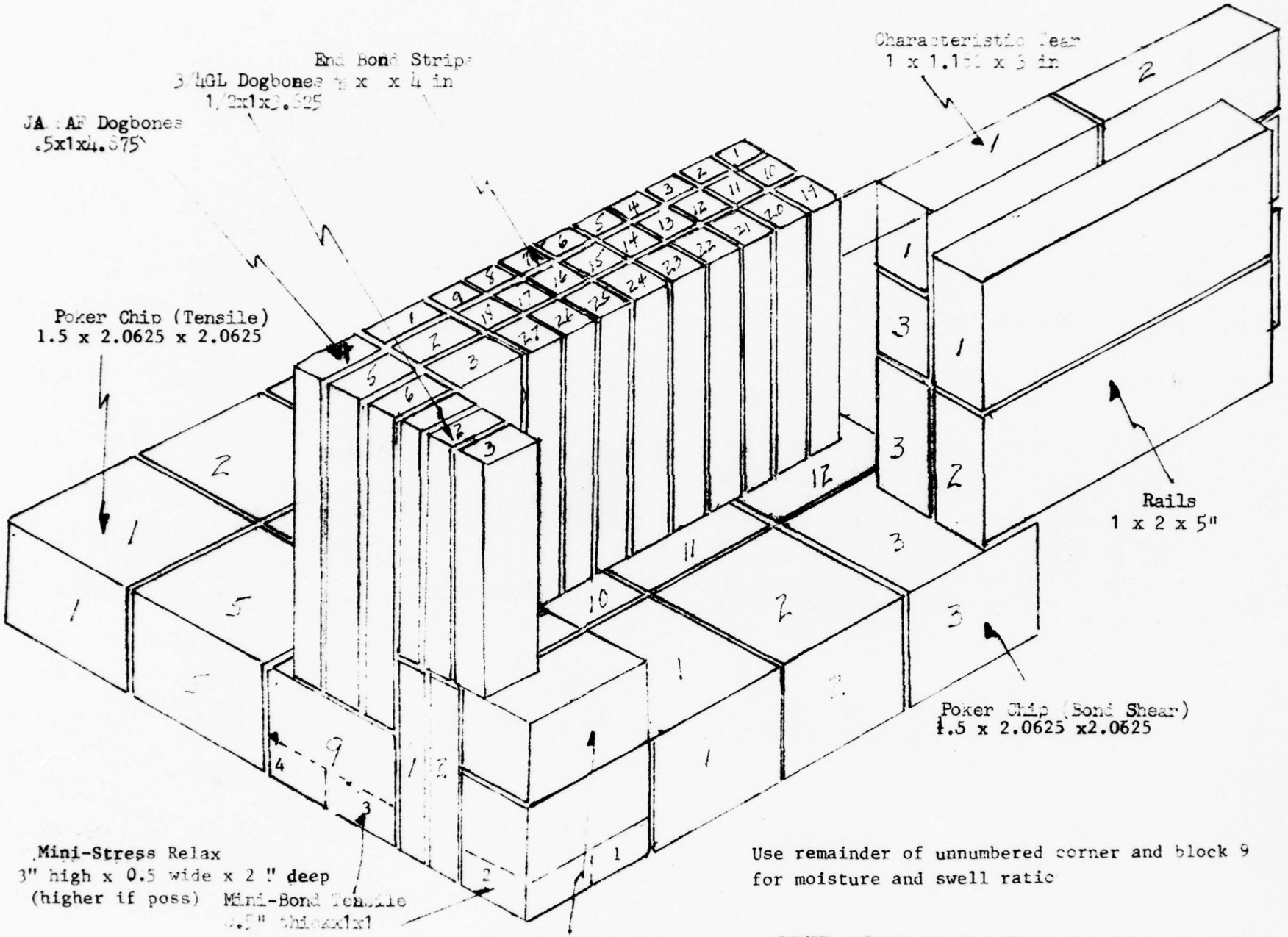
HARDNESS - 10 Sec

LINED CARTONS
GTR Polymer

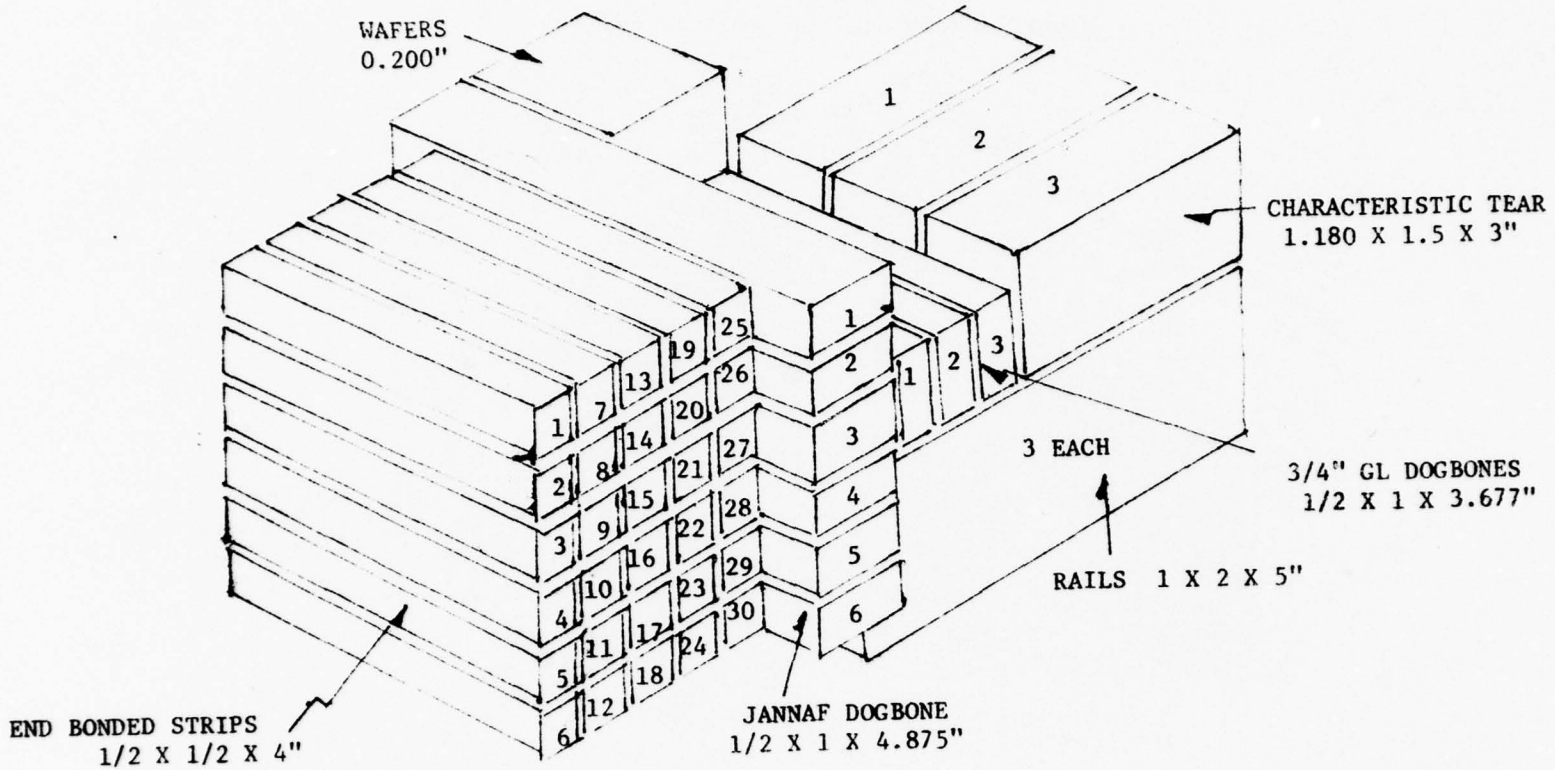
	Surface	1	2	3	4	5	6	Average Thru The Blocks
AA21117	67.0	68.3	68.7	66.0	69.3	69.2	69.3	68.5
21128	69.4	70.0	70.0	69.8	67.5	67.7	67.5	68.8
AA21234	71.6	69.6	70.2	70.0	70.0	70.0	70.4	70.0
21245	69.6	69.6	69.0	69.8	69.8	69.7	69.5	69.5
AA21256	69.4	69.9	69.5	70.0	68.6	67.4	67.5	68.8
21282	66.8	67.5	67.0	66.8	67.5	67.5	67.5	67.3
AA21294	65.6	68.4	67.8	67.6	68.3	67.0	68.0	67.8
21317	65.6	66.5	66.5	66.7	66.3	66.2	66.5	66.4

LINED CARTONS
Phillips Polymer

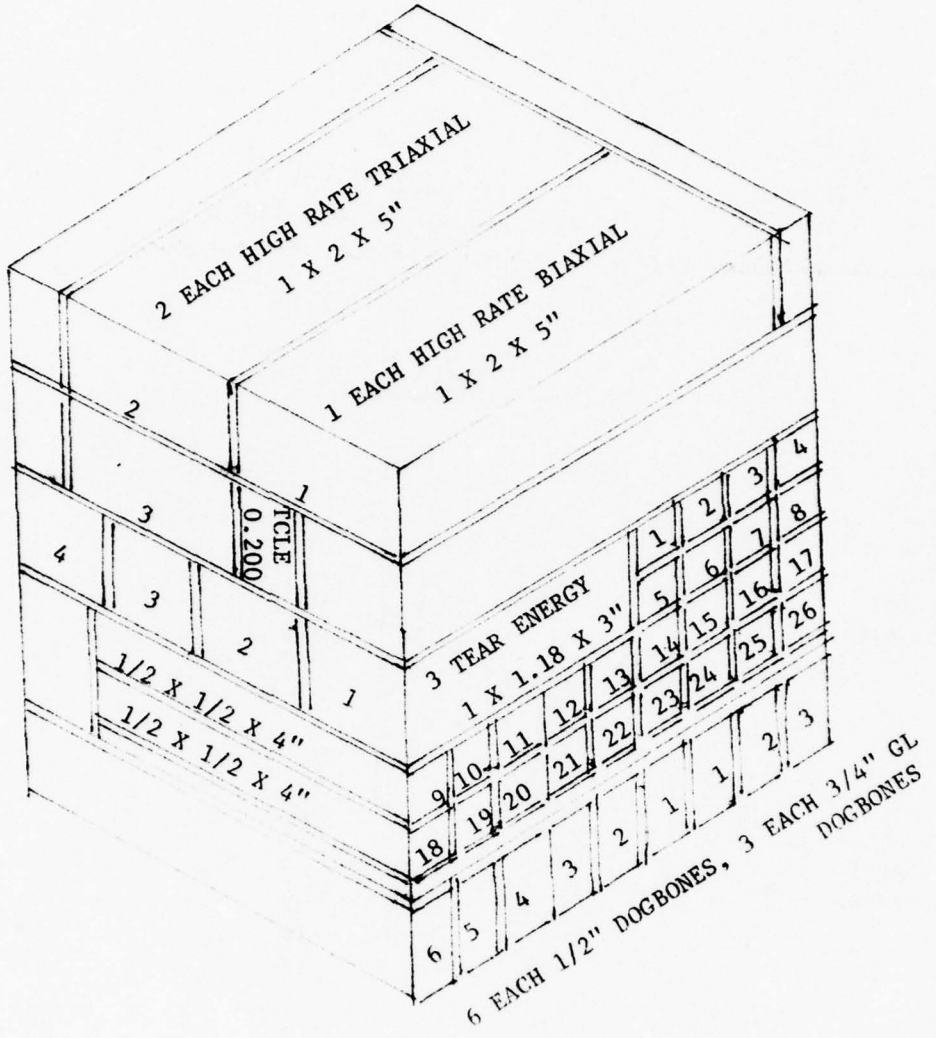
AA21084	73.4	71.8	71.6	71.8	72.0	71.3	72.4	71.8
21101	66.8	68.0	67.2	68.6	68.0	68.2	69.0	68.2
AA21194	70.2	70.8	69.0	70.2	70.5	71.0	70.5	70.3
21211	69.2	69.4	69.5	68.8	68.9	68.9	68.6	69.0
AA21306	61.6	62.8	63.2	62.5	62.4	61.8	62.0	62.4
21326	59.4	65.2	65.0	65.0	64.2	65.0	64.4	64.8



LINED CARTON CUTTING PLA = 1"



UNLINED CARTON CUTTING PLAN
(scale 1/2 - 1)



STAGE 3 ANB-3066 UNLINED CARTONS (THIOKOL)

SECTION X
OTHER TENSILE TESTS

A. LOW RATE UNIAXIAL TESTS:

Low rate uniaxial tests are routinely run on ANB-3066 propellant. Standard JANNAF specimens are tested on the Instron at 2 in/min (.0847 cm/sec) at 77°F (25°C).

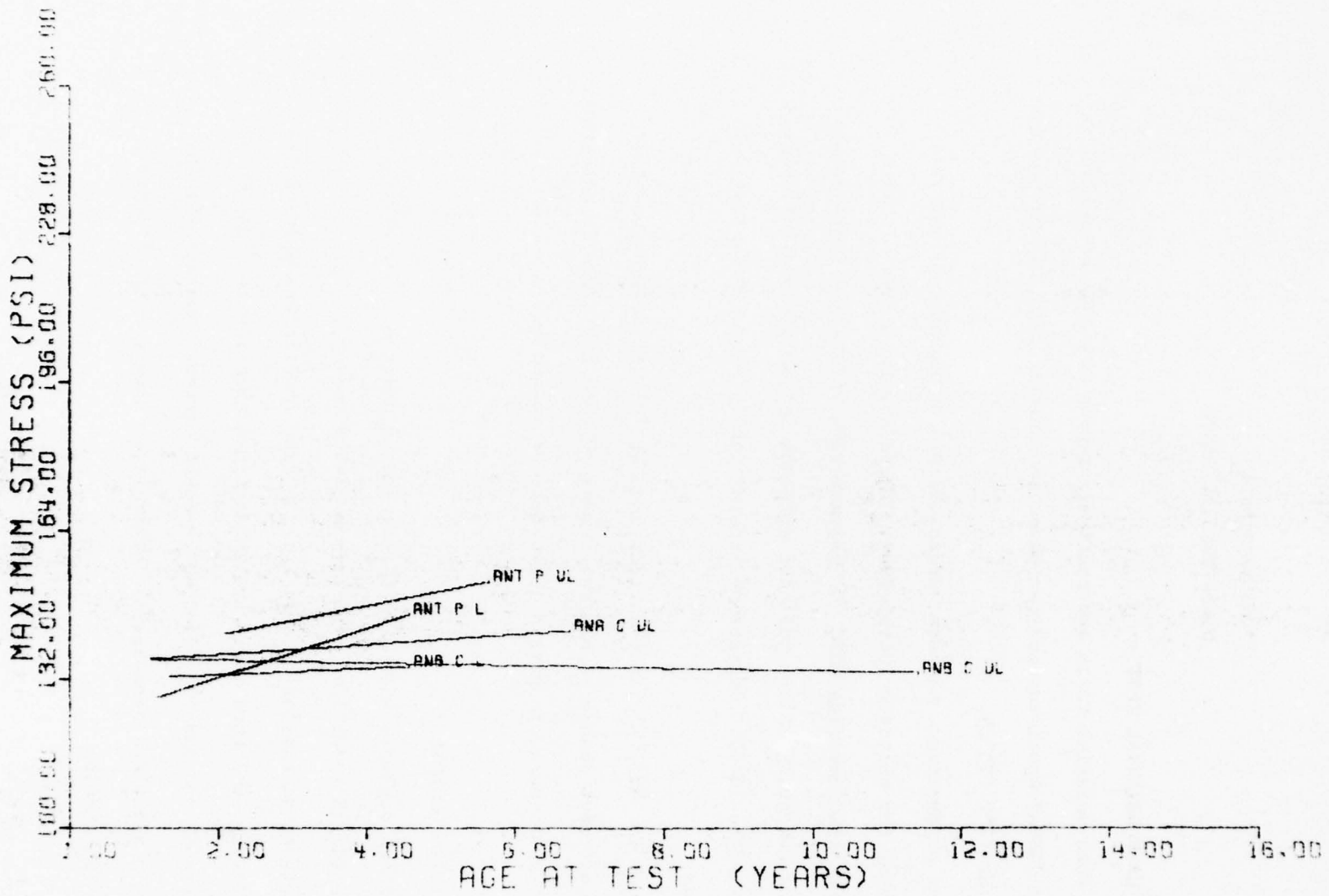
Three parameters: maximum stress, strain at rupture and modulus were chosen for multiple regressions. There are two plots for each parameter; one comparing ASPC 'G' polymer with Thiokol 'P' polymer and the other comparing 'P' propellants with ANA 'G' as a base line (Figures 10-1 thru 10-6). Regression information is given in Tables 10-1 thru 10-3.

Except for ANB 'G' lined cartons and ANB 'P' unlined cartons there is a significant change in maximum stress. These two types do not show a significant change in strain at rupture or in modulus.

B. MODIFIED DOGBONES:

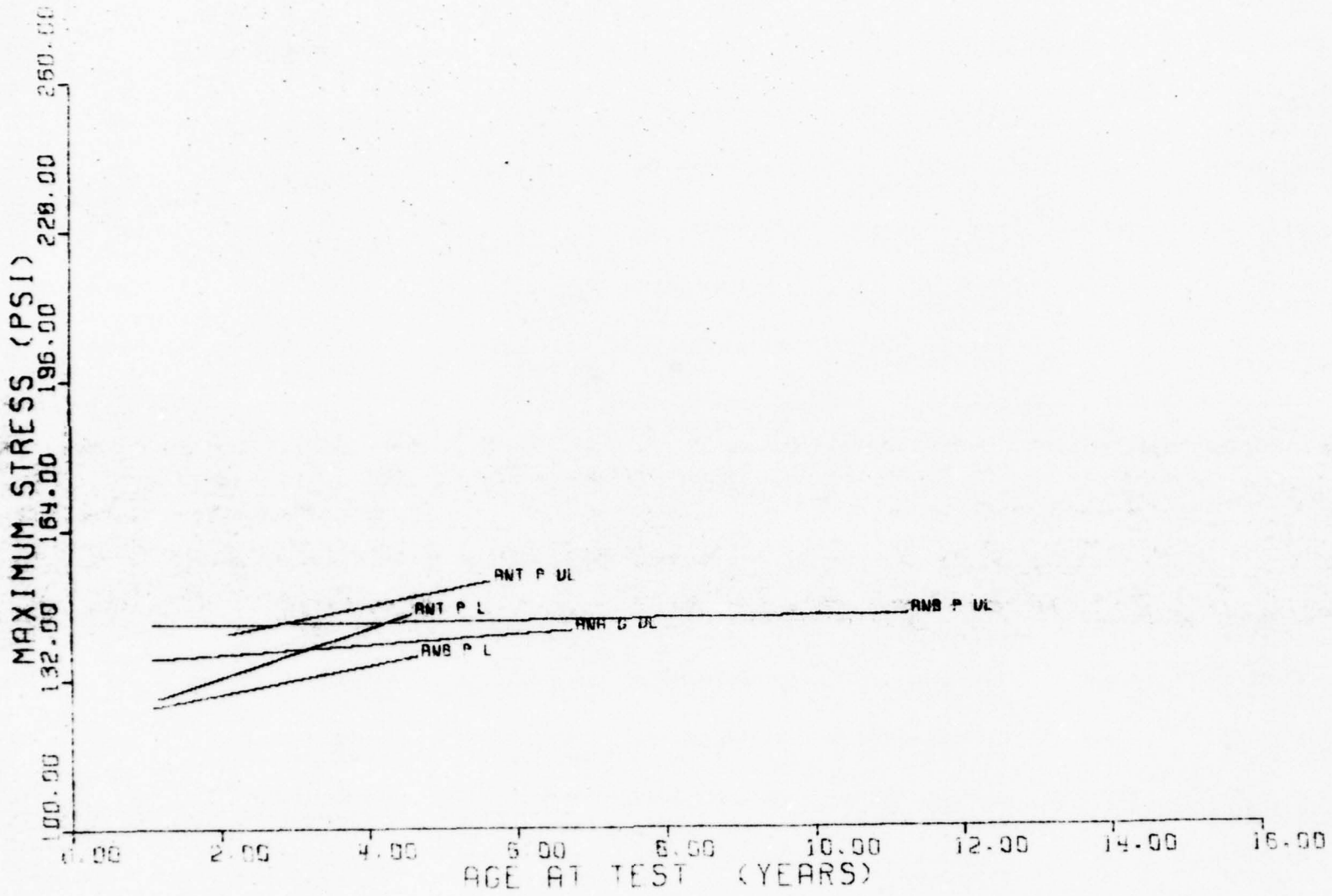
Modified dogbones with 3/4" GL are tested under 600 psi nitrogen pressure (42.18 kg/cm^2) at 1750 in/min (74.08 cm/sec).

A comparison similar to that for low rate tensile was made on the data (Figures 10-7 thru 10-12 and Tables 10-4 thru 10-6). ANA 'G' unlined cartons and ANB 'P' lined and unlined cartons show significant changes in all three parameters. Other types showed a significant increase in modulus.



ANB 3066 PROPELLNT REGRESSION COMPARISON, TENSILE MAX STRESS, 2.0 IN/MIN 77 DEG F

Figure 10-1



ANB 3066 PROPELLANT REGRESSION COMPARISON, TENSILE MAX STRESS, 2.0 IN/MIN 77 DEG F

Figure 10-2

Table 10-1

DATA ID	NR OBSERV	INTERCEPT/ STD ERR INTERCEPT	SLOPE/ STD ERR SLOPE	STD ERR REGRESS	CORRELATION/ T	SIGNIFICANCE OF T	95% CONFIDENCE LIMITS UPPER LIMIT/ LOWER LIMIT
1		0.13527712E+03	0.88956515E-01		0.22357368E+00		0.15934290E+03
ANA G UL	306	0.95791984E+00	0.22242591E-01	0.84981766E+01	0.39993773E+01	SIG	0.12562216E+03
2		0.13158840E+03	0.58023308E-01		0.91873705E-01		0.15215076E+03
ANB G L	83	0.25397482E+01	0.69875985E-01	0.85547867E+01	0.83837543E+00	NOT SIG	0.11140851E+03
3		0.13632352E+03	-0.22170233E-01		-0.67855030E-01		0.15351489E+03
ANB G UL	1427	0.54716587E+00	0.86353235E-02	0.10286381E+02	-0.25673895E+01	SIG	0.11305746E+03
4		0.12201170E+03	0.43727943E+00		0.54716325E+00		0.16295740E+03
ANT P L	138	0.19559588E+01	0.57360306E-01	0.84002228E+01	0.76233788E+01	SIG	0.12916656E+03
5		0.13559900E+03	0.25543396E+00		0.27012908E+00		0.17568164E+03
ANT P UL	350	0.20618944E+01	0.48805013E-01	0.11452328E+02	0.52337646E+01	SIG	0.13025531E+03

ANB 3066 PROPLLNT REGRESSION COMPARISON, TENSILE MAX STRESS, 2.0 IN/MIN 77 DEG F

DATA ID	NR OBSERV	INTERCEPT/ STD ERR INTERCEPT	SLOPE/ STD ERR SLOPE	STD ERR REGRESS	CORRELATION/ T	SIGNIFICANCE OF T	95% CONFIDENCE LIMITS UPPER LIMIT/ LOWER LIMIT
1		0.13527712E+03	0.88956515E-01		0.22357368E+00		0.15934290E+03
ANA G UL	306	0.95791984E+00	0.22242591E-01	0.84981766E+01	0.39993773E+01	SIG	0.12562216E+03
2		0.12301575E+03	0.25397254E+00		0.28643978E+00		0.15821240E+03
INP P L	87	0.25687485E+01	0.92141211E-01	0.10108433E+02	0.27563400E+01	SIG	0.11626389E+03
3		0.14352927E+03	0.15819547E-01		0.41110352E-01		0.17062280E+03
ANB P UL	1221	0.75619006E+00	0.11012185E-01	0.12691872E+02	0.14365492E+01	NOT SIG	0.12870685E+03
4		0.12201170E+03	0.43727943E+00		0.54716325E+00		0.16295740E+03
ANT P L	138	0.19559588E+01	0.57360306E-01	0.84002228E+01	0.76233788E+01	SIG	0.12916656E+03
5		0.13559900E+03	0.25543396E+00		0.27012908E+00		0.17568164E+03
ANT P UL	350	0.20618944E+01	0.48805013E-01	0.11452328E+02	0.52337646E+01	SIG	0.13025531E+03

ANB 3066 PROPLLNT REGRESSION COMPARISON, TENSILE MAX STRESS, 2.0 IN/MIN 77 DEG F

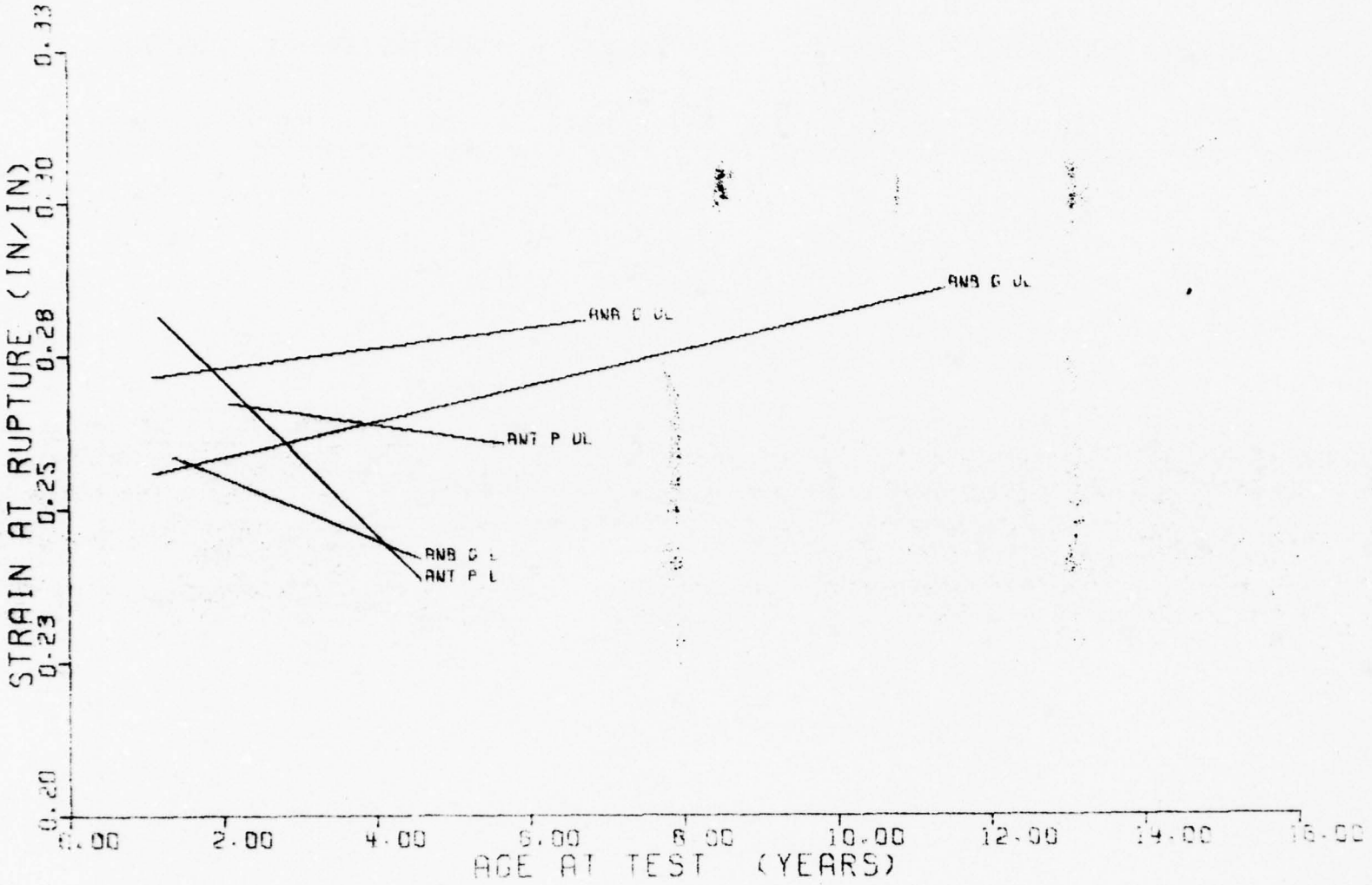
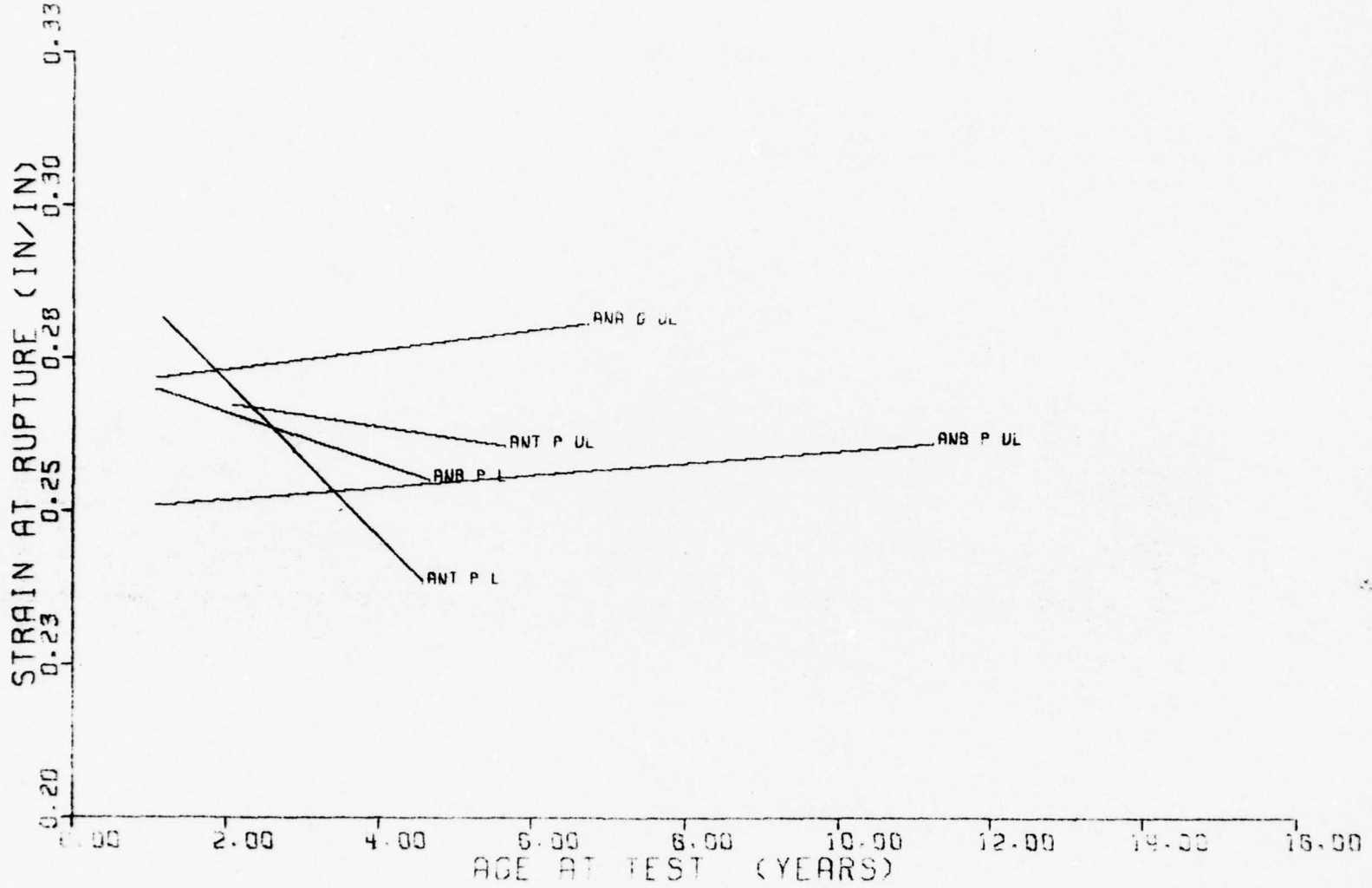

STRAIN AT RUPTURE (IN/IN)
0.33
0.30
0.28
0.25
0.23
0.20
ANB G UL
ANB G UL
ANT P UL
ANB G L
ANT P L
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PROPLLNT REGRESSION COMPARISON. TENSILE STN AT RUP. 2.0 IN/MIN 77 DEG F

Figure 10-3



ANB 3066 PROPLLNT REGRESSION COMPARISON, TENSILE STN AT RUP, 2.0 IN/MIN 77 DEG F

Figure 10-4

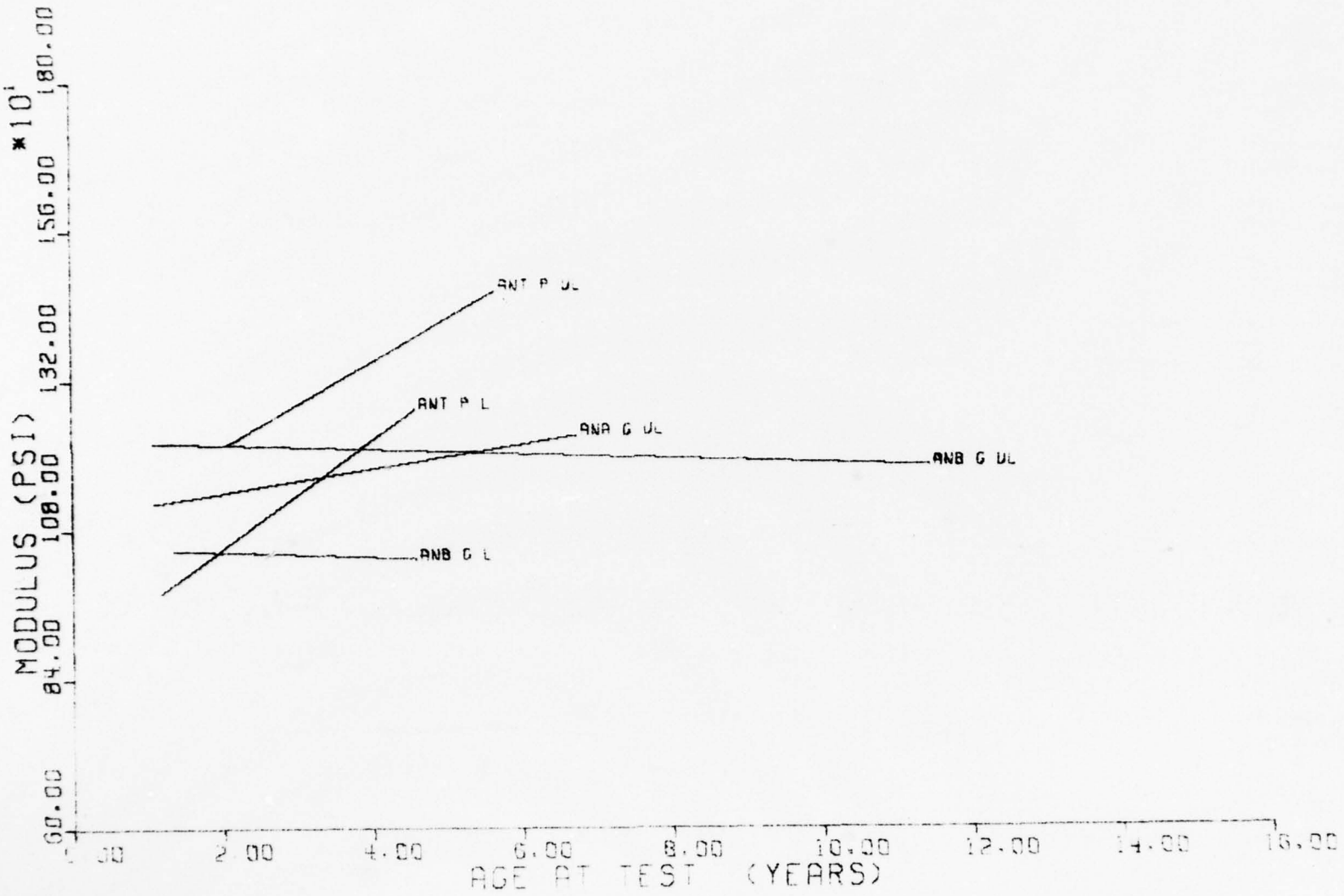
Table 10-2

DATA ID	HR OBSERV	INTERCEPT/ STD ERR INTERCEPT	SLOPE/ STD ERR SLOPE	STD ERR REGRESS	CORRELATION/ T	SIGNIFICANCE OF T	95% CONFIDENCE LIMITS UPPER LIMIT/ LOWER LIMIT
1 ANA G UL	306	0.27271100E+00 0.28054500E-02	0.13899526E-03 0.65141649E-04	0.24868523E-01	0.12147206E+00 0.21337385E+01	SIG	0.33.34816E+00 0.23459077E+00
2 ANA G L	63	0.26779145E+00 0.60092145E-02	-0.44217860E-03 0.22255833E-03	0.27247399E-01	-0.21666163E+00 -0.19867630E+01	NOT SIG	0.29679987E+00 0.18814415E+00
3 ANA G UL	1427	0.25465515E+00 0.32054965E-02	0.28100101E-03 0.50587434E-04	0.26059655E-01	0.13031640E+00 0.49617252E+01	SIG	0.40774596E+00 0.17073846E+00
4 ANA P L	136	0.30019814E+00 0.55221599E-02	-0.10993077E-02 0.16194244E-03	0.23715921E-01	-0.50306821E+00 -0.67882633E+01	SIG	0.26743613E+00 0.19203621E+00
5 ANA P UL	350	0.27418814E+00 0.65696742E-02	-0.16498364E-03 0.15550404E-03	0.36489770E-01	-0.56701694E-01 -0.10609608E+01	NOT SIG	0.33533847E+00 0.19059974E+00

AND 3086 PROPELLENT REGRESSION COMPARISON, TENSILE STN AT RUP, 2.0 IN/MIN 77 DEG F

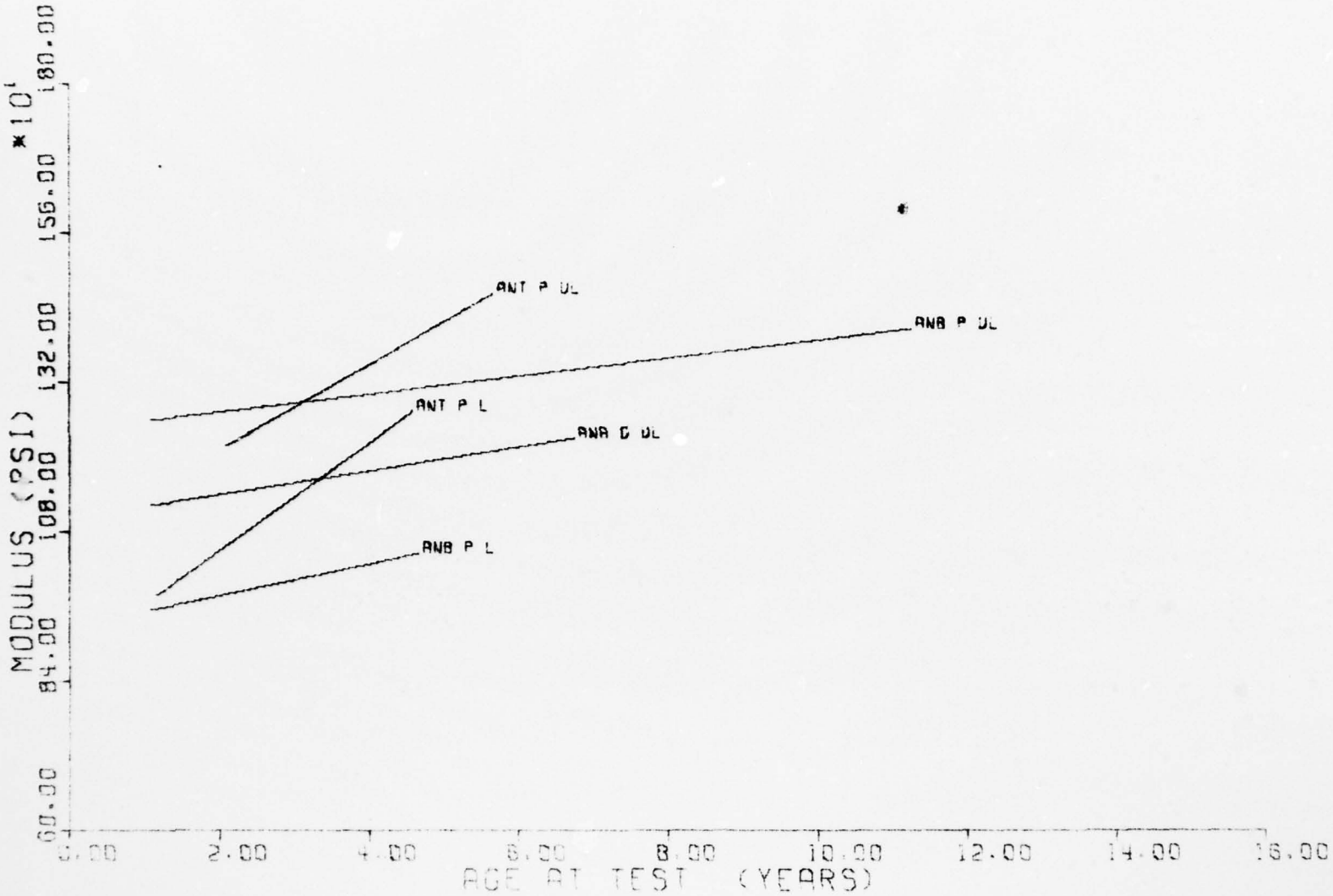
DATA ID	HR OBSERV	INTERCEPT/ STD ERR INTERCEPT	SLOPE/ STD ERR SLOPE	STD ERR REGRESS	CORRELATION/ T	SIGNIFICANCE OF T	95% CONFIDENCE LIMITS UPPER LIMIT/ LOWER LIMIT
1 ANA G UL	306	0.27271100E+00 0.28054500E-02	0.13899526E-03 0.65141649E-04	0.24868523E-01	0.12147206E+00 0.21337385E+01	SIG	0.33334816E+00 0.23459077E+00
2 ANA P L	67	0.27714945E+00 0.67856453E-02	-0.35739508E-03 0.31442440E-03	0.34494191E-01	-0.12226351E+00 -0.11366777E+01	NOT SIG	0.32670793E+00 0.18556201E+00
3 ANA P UL	1221	0.25185201E+00 0.29231543E-02	0.56698506E-04 0.42569096E-04	0.49062198E-01	0.59572846E-01 0.21636372E+01	SIG	0.36030555E+00 0.16734856E+00
4 ANA P L	136	0.30019814E+00 0.55221599E-02	-0.10993077E-02 0.16194244E-03	0.23715921E-01	-0.50306821E+00 -0.67882633E+01	SIG	0.26743613E+00 0.19203621E+00
5 ANA P UL	350	0.27418814E+00 0.65696742E-02	-0.16498364E-03 0.15550404E-03	0.36489770E-01	-0.56701694E-01 -0.10609608E+01	NOT SIG	0.33533847E+00 0.19059974E+00

AND 3086 PROPELLENT REGRESSION COMPARISON, TENSILE STN AT RUP, 2.0 IN/MIN 77 DEG F



ANB 3066 PROPLLNT REGRESSION COMPARISON, TENSILE MODULUS, 2.0 IN/MIN 77 DEG F

Figure 10-5



ANB 3066 PROPELLNT REGRESSION COMPARISON. TENSILE MODULUS. 2.0 IN/MIN 77 DEG F

Figure 10-6

Table 10-3

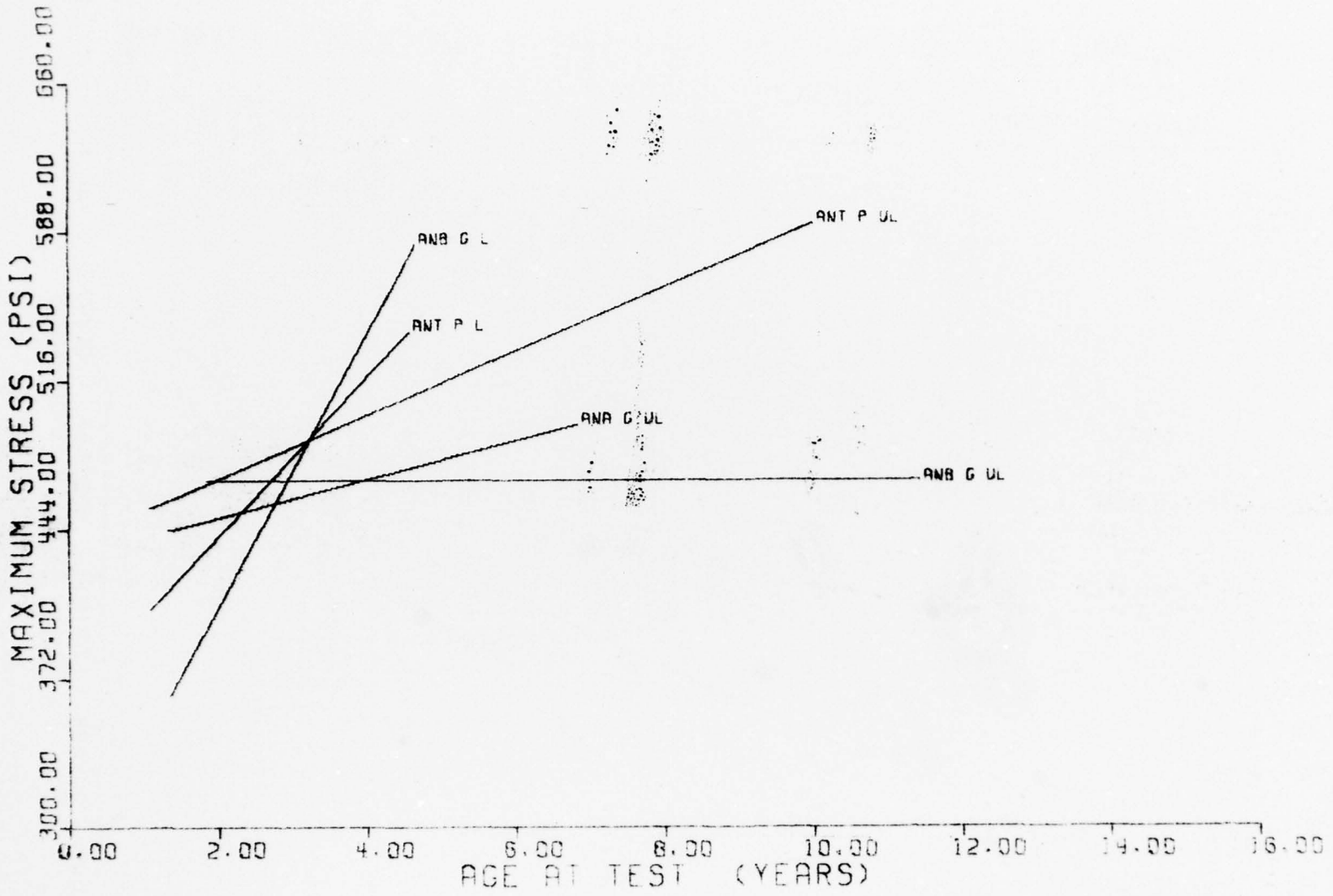
DATA ID	GR CASE/W	INTERCEPT/ STD ERR INTERCEPT	SLOPE/ STD ERR SLOPE	STD ERR REGRESS	CORRELATION/ T	SIGNIFICANCE OF T	95% CONFIDENCE LIMITS UPPER LIMIT/ LOWER LIMIT
*********	**********	**********	**********	**********	**********	**********	**********
1		0.1012297E+04	0.1405026E+01		0.2048559E+00		0.1564907E+04
ARS G UL	306	0.2158112E+03	0.4397526E+00	0.1602763E+03	0.3643614E+01	STG	0.4977593E+03
2		0.1052380A9E+04	-0.2215394E+00		-0.2350B629E-01		0.1756387E+04
ARS G L	65	0.4716E335E+02	0.1997745E+01	0.1588799E+03	-0.1174720E+00	NOT STG	0.7515283E+02
3		0.1223514E+04	-0.3299E67BE+00		-0.5[illegible]E-01		0.1547674E+04
ARS G UL	1427	0.5991E257E+01	0.1578745[illegible]E+00	0.1478213[illegible]E+03	-0.2[illegible]E+01	STG	0.8869538E+03
4		0.8771827[illegible]E+03	0.7234727[illegible]E+01		0.4[illegible]E+00		0.1597791E+04
ART O L	138	0.2736[illegible]E+02	0.1095[illegible]E+01	0.1[illegible]E+03	0.[illegible]E+01	STG	0.9552[illegible]E+03
5		0.1277520E+04	0.5[illegible]E+01		0.2[illegible]E+00		0.1928[illegible]E+04
ART O UL	350	0.4[illegible]E+02	0.[illegible]E+00	0.[illegible]E+03	0.5[illegible]E+01	STG	0.1[illegible]E+04

ARS SOIL PROFILE REGRESSION COMPARISON, TENSILE MODULUS, 2.0 IN/IN 77 DEG F

10-10

DATA ID	GR CASE/W	INTERCEPT/ STD ERR INTERCEPT	SLOPE/ STD ERR SLOPE	STD ERR REGRESS	CORRELATION/ T	SIGNIFICANCE OF T	95% CONFIDENCE LIMITS UPPER LIMIT/ LOWER LIMIT
*********	**********	**********	**********	**********	**********	**********	**********
1		0.1012297E+04	0.1405026E+01		0.2048559E+00		0.1564907E+04
ARS G UL	306	0.2158112E+03	0.4397526E+00	0.1602763E+03	0.3643614E+01	STG	0.4977593E+03
2		0.1052380A9E+04	-0.2215394E+00		-0.2350B629E-01		0.1756387E+04
ARS G L	65	0.4716E335E+02	0.1997745E+01	0.1588799E+03	-0.1174720E+00	NOT STG	0.7515283E+02
3		0.1223514E+04	-0.3299E67BE+00		-0.5[illegible]E-01		0.1547674E+04
ARS G UL	1427	0.5991E257E+01	0.1578745[illegible]E+00	0.1478213[illegible]E+03	-0.2[illegible]E+01	STG	0.8869538E+03
4		0.8771827[illegible]E+03	0.7234727[illegible]E+01		0.4[illegible]E+00		0.1597791E+04
ART O L	138	0.2736[illegible]E+02	0.1095[illegible]E+01	0.1[illegible]E+03	0.[illegible]E+01	STG	0.9552[illegible]E+03
5		0.1277520E+04	0.5[illegible]E+01		0.2[illegible]E+00		0.1928[illegible]E+04
ART O UL	350	0.4[illegible]E+02	0.[illegible]E+00	0.[illegible]E+03	0.5[illegible]E+01	STG	0.1[illegible]E+04

ARS SOIL PROFILE REGRESSION COMPARISON, TENSILE MODULUS, 2.0 IN/IN 77 DEG F



ANB 3066 PRPLLNT REGRESSION COMPARISON. HR HYDRO TENSILE SM. 1750 IN/MIN 600 PSI

Figure 10-7

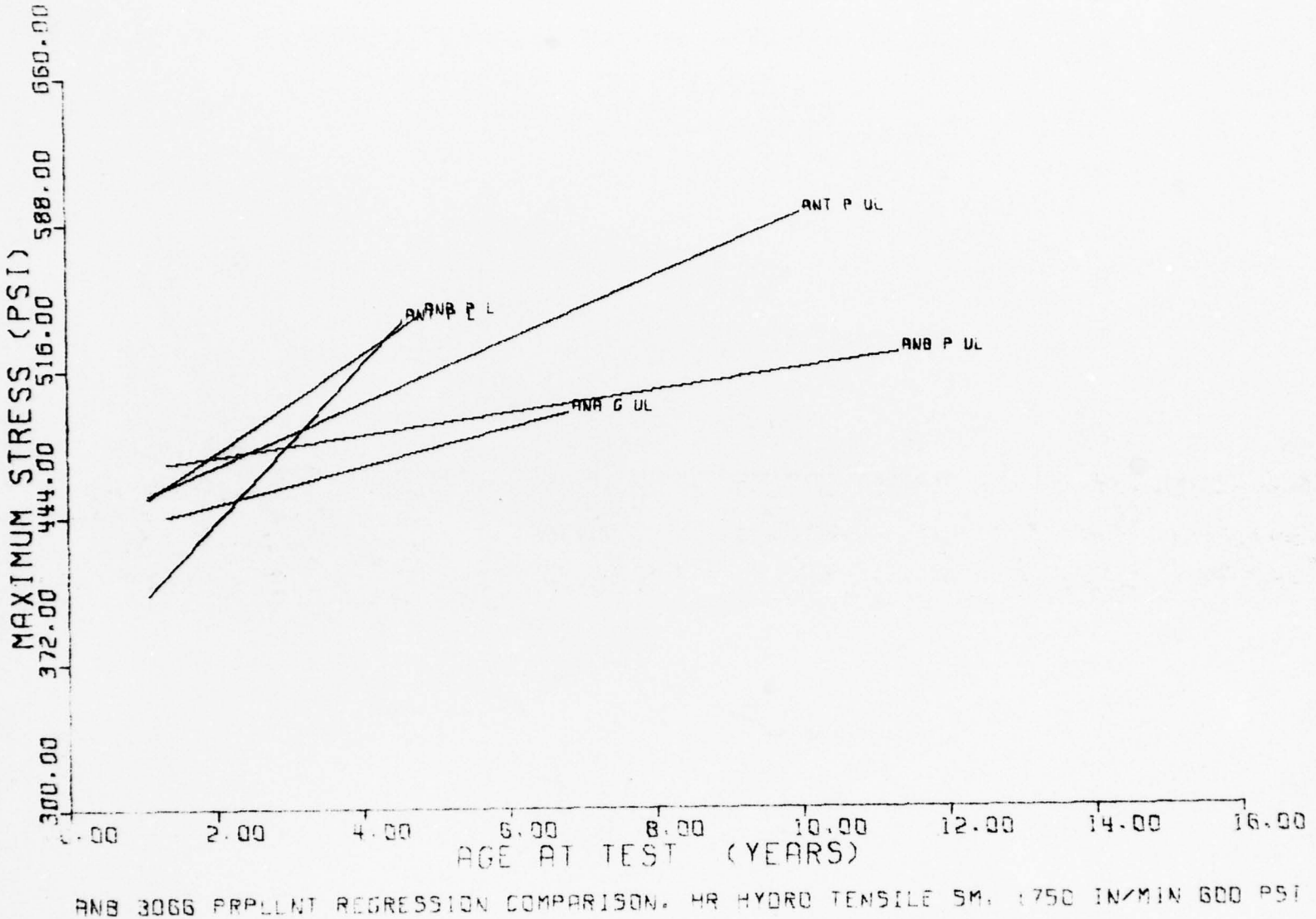

MAXIMUM STRESS (PSI)
300.00
372.00
444.00
516.00
588.00
660.00
ANT P UL
ANB P L
ANB P UL
ANA G UL
.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANB 3066 PRPLLNT REGRESSION COMPARISON, HR HYDRO TENSILE SM, 750 IN/MIN 600 PSI

Figure 10-8

Table 10-4

DATA ID	NR_OBSERV	INTERCEPT/ STD ERR INTERCEPT	SLOPE/ STD ERR SLOPE	STD ERR REGRESS	CORRELATION/ T	SIGNIFICANCE OF T	95% CONFIDENCE LIMITS UPPER LIMIT/ LOWER LIMIT
1		0.43186249E+03	0.77273757E+00		0.27472997E+00		0.61648022E+03
ANA G UL	148	0.11786567E+02	0.22382492E+00	0.60595291E+02	0.34524193E+01	SIG	0.37401355E+03
2		0.27690262E+03	0.54542221E+01		0.81690359E+00		0.68741699E+03
ANB G L	88	0.13351095E+02	0.42017305E+00	0.51755234E+02	0.12960892E+02	SIG	0.47726062E+03
3		0.40771629E+03	-0.68352968E-02		-0.20025534E-02		0.60597070E+03
ANB G UL	450	0.96695915E+01	0.11125931E+00	0.70413116E+02	-0.61435729E-01	NOT SIG	0.32758887E+03
4		0.36379346E+03	0.32151325E+01		0.56743431E+00		0.65706836E+03
ANT P L	98	0.17455894E+02	0.47617662E+00	0.57611725E+02	0.67519741E+01	SIG	0.42418311E+03
5		0.43785817E+03	0.12087399E+01		0.34006476E+00		0.71266113E+03
ANT P UL	305	0.96519966E+01	0.20339859E+00	0.59002151E+02	0.63360310E+01	SIG	0.47235229E+03

ANB 3086 EFFLUENT REGRESSION COMPARISON, HP HYDRO TENSILE SN, 1750 IN/MIN 600 PSI

DATA ID	NR_OBSERV	INTERCEPT/ STD ERR INTERCEPT	SLOPE/ STD ERR SLOPE	STD ERR REGRESS	CORRELATION/ T	SIGNIFICANCE OF T	95% CONFIDENCE LIMITS UPPER LIMIT/ LOWER LIMIT
1		0.43186249E+03	0.77273757E+00		0.27472997E+00		0.61648022E+03
ANA G UL	148	0.11786567E+02	0.22382492E+00	0.60595291E+02	0.34524193E+01	SIG	0.37401355E+03
2		0.42765954E+03	0.19955925E+01		0.36996269E+00		0.67655933E+03
ANB P L	91	0.15995596E+02	0.53119779E+00	0.65696584E+02	0.37867778E+01	SIG	0.40824817E+03
3		0.46303211E+03	0.44265521E+01		0.24551445E+01		0.64336100E+03
ANB P UL	457	0.70118065E+01	0.81937462E-01	0.64871521E+02	0.54023533E+01	SIG	0.40310522E+03
4		0.36379346E+03	0.32151325E+01		0.56743431E+00		0.65706836E+03
ANT P L	98	0.17455894E+02	0.47617662E+00	0.57611725E+02	0.67519741E+01	SIG	0.42418311E+03
5		0.43785817E+03	0.12087399E+01		0.34006476E+00		0.71266113E+03
ANT P UL	305	0.96519966E+01	0.20339859E+00	0.59002151E+02	0.63360310E+01	SIG	0.47235229E+03

ANB 3086 EFFLUENT REGRESSION COMPARISON, HP HYDRO TENSILE SN, 1750 IN/MIN 600 PSI

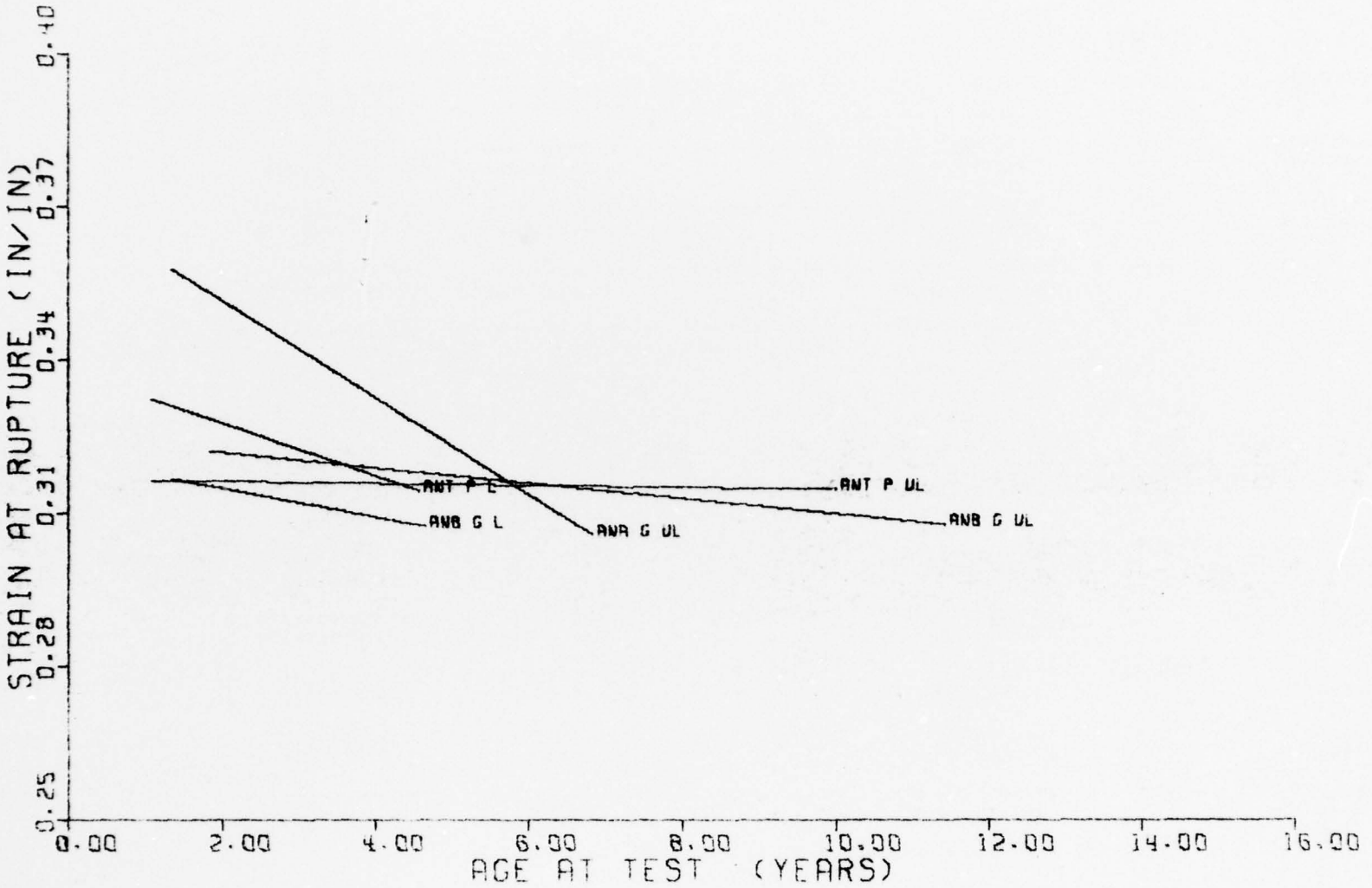
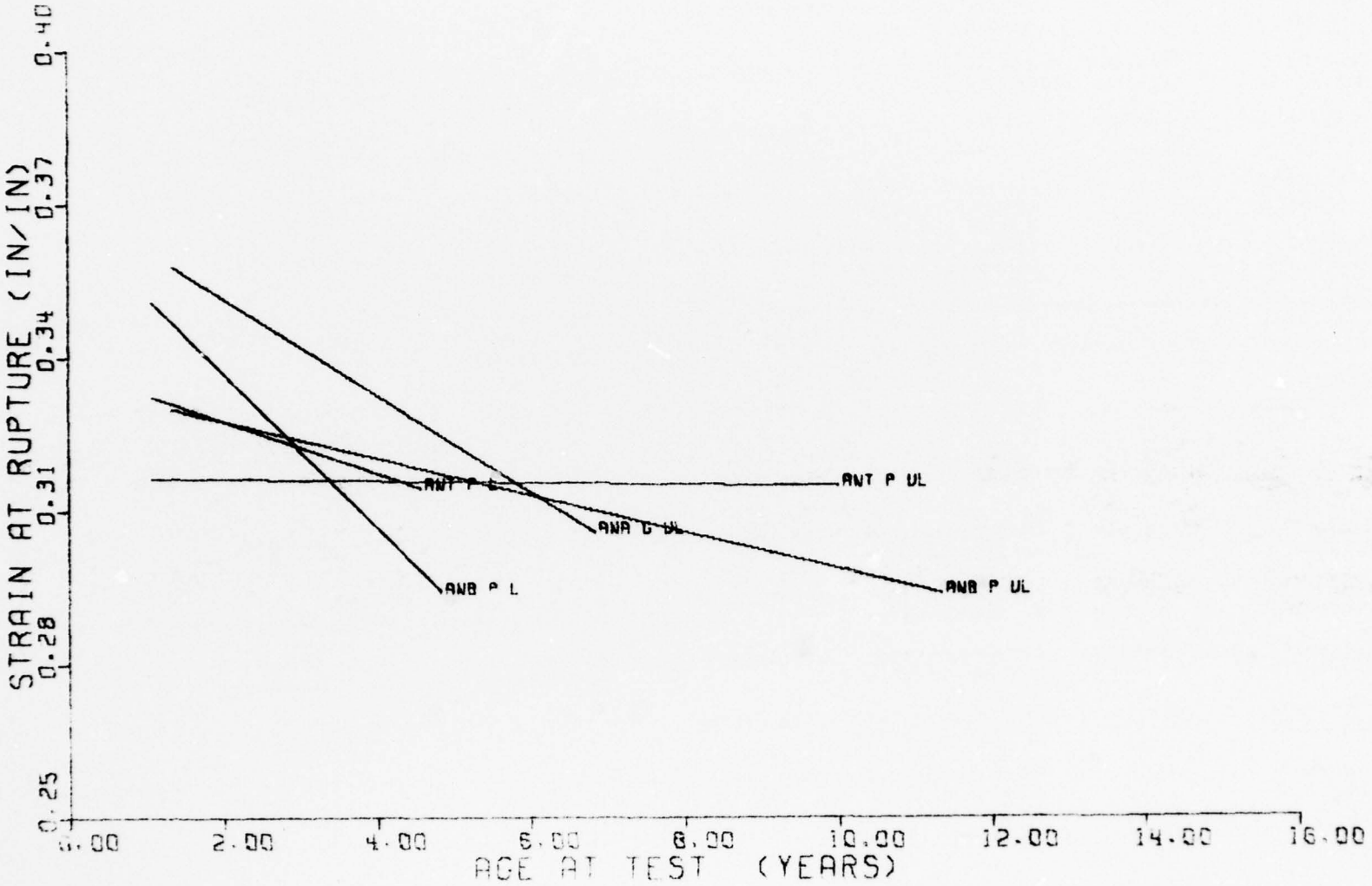

STRAIN AT RUPTURE (IN/IN)
0.25
0.28
0.31
0.34
0.37
0.40
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00
16.00
AGE AT TEST (YEARS)
ANT P L
ANT P UL
ANB G L
ANB G UL
ANB 3066 PRPLLNT REGRESSION COMPARISON, HR HYDRO TENSILE ER, 1750 IN/MIN 600 PSI

Figure 10-9



ANB 3066 PRPLLNT REGRESSION COMPARISON, HR HYDRO TENSILE ER, 1750 IN/MIN 600 PSI

Figure 10-10

Table 10-5

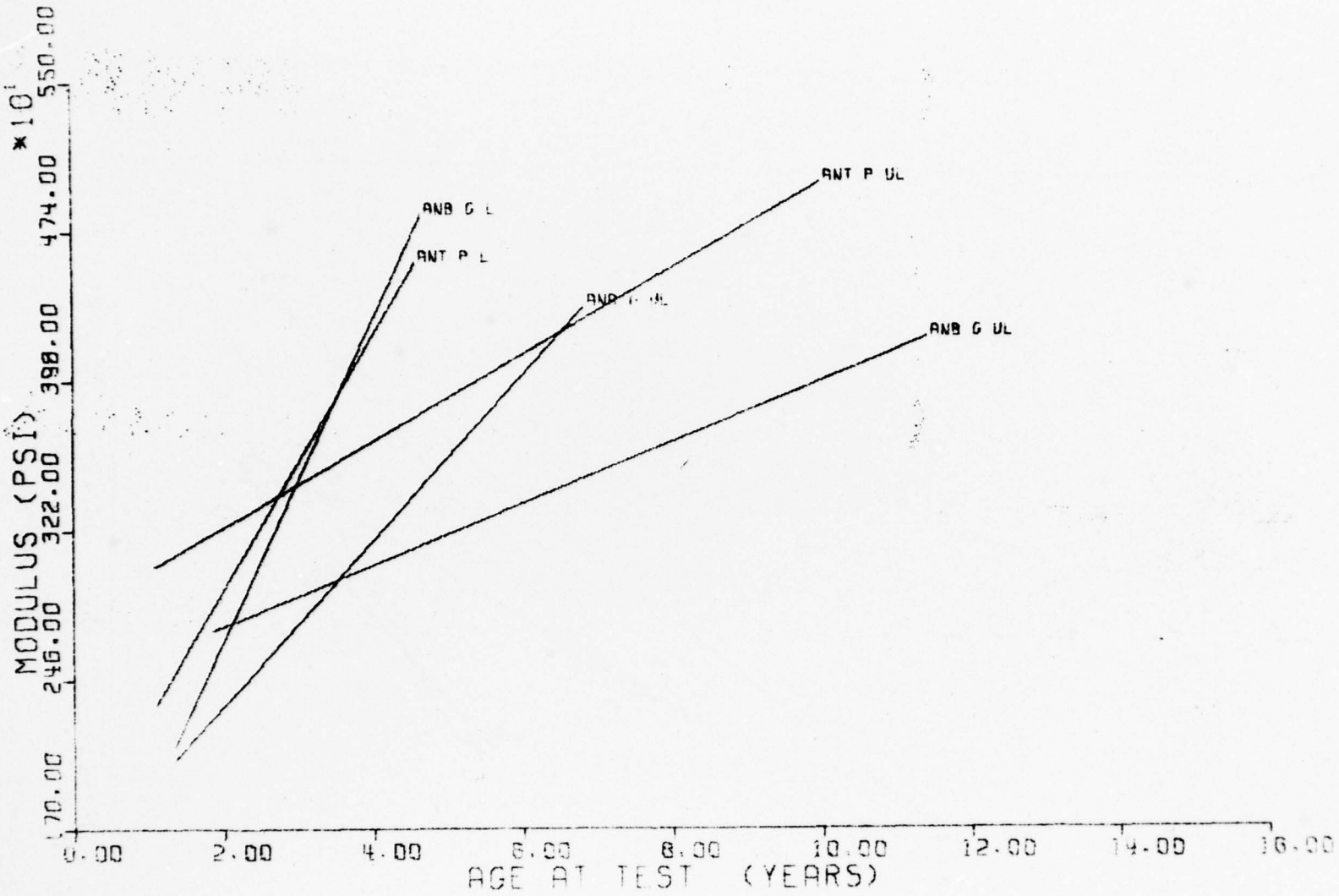
DATA ID	NO. OBSERV.	INTERCEPT/ STD. ERR. INTERCEPT	SLOPE/ STD. ERR. SLOPE	STD. ERR. REGRESS.	CORRELATION/ T	SIGNIFICANCE OF T	95% CONFIDENCE LIMITS: UPPER LIMIT/ LOWER LIMIT
1							
MM G UL	145	0.2703287[illegible]E+01	-0.7915[illegible]E-04		-0.4[illegible]E+00		0.3[illegible]E+00
		0.6[illegible]E-02	0.1[illegible]E-03	0.3[illegible]E-01	-0.8[illegible]E+01	STG	0.2[illegible]E+00
2							
MM G L	44	0.3[illegible]E+01	-0.2[illegible]E-03		-0.1[illegible]E+00		0.3[illegible]E+00
		0.2[illegible]E-02	0.2[illegible]E-03	0.5[illegible]E-01	-0.9[illegible]E+00	NOT STG	0.2[illegible]E+00
3							
MM S UL	95	0.2[illegible]E+01	-0.1[illegible]E-03		-0.1[illegible]E+00		0.3[illegible]E+00
		0.4[illegible]E-02	0.1[illegible]E-03	0.2[illegible]E-01	-0.2[illegible]E+01	STG	0.2[illegible]E+00
4							
MM S L	92	0.2[illegible]E+01	-0.4[illegible]E-03		-0.1[illegible]E+00		0.3[illegible]E+00
		0.1[illegible]E-01	0.2[illegible]E-03	0.2[illegible]E-01	-0.1[illegible]E+01	NOT STG	0.2[illegible]E+00
5							
MM P UL	105	0.3[illegible]E+01	-0.1[illegible]E-04		-0.6[illegible]E-02		0.4[illegible]E+00
		0.7[illegible]E-02	0.1[illegible]E-03	0.4[illegible]E-01	-0.1[illegible]E+00	NOT STG	0.2[illegible]E+00

MM REF PROPELLANT REGRESSION COMPARISON, MM HYDRO TENSILE PR. 1750 IN/MIN 600 PSI

10-16

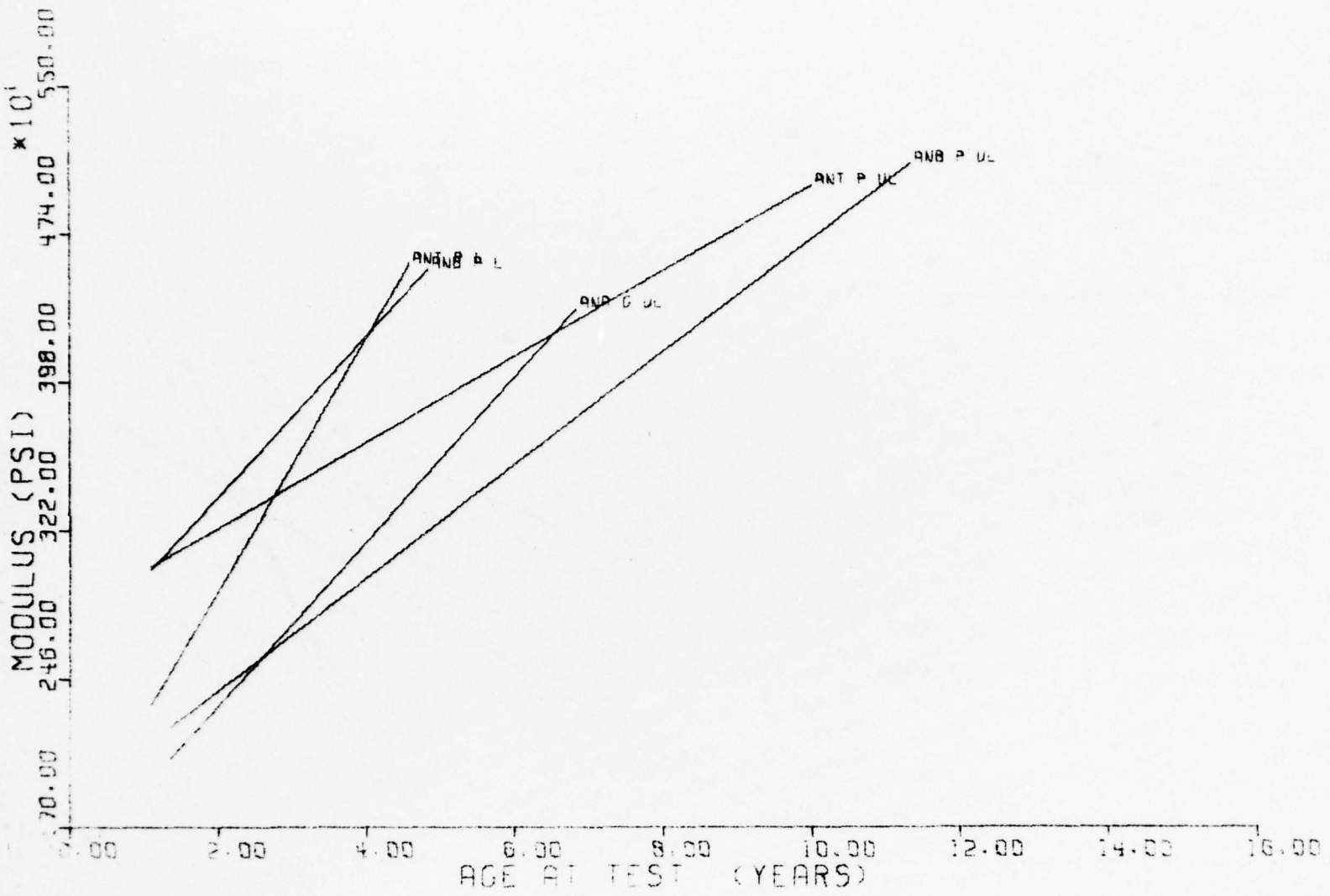
DATA ID	NO. OBSERV.	INTERCEPT/ STD. ERR. INTERCEPT	SLOPE/ STD. ERR. SLOPE	STD. ERR. REGRESS.	CORRELATION/ T	SIGNIFICANCE OF T	95% CONFIDENCE LIMITS: UPPER LIMIT/ LOWER LIMIT
1							
MM G UL	145	0.2703287[illegible]E+01	-0.7915[illegible]E-04		-0.4[illegible]E+00		0.3[illegible]E+00
		0.6[illegible]E-02	0.1[illegible]E-03	0.3[illegible]E-01	-0.8[illegible]E+01	STG	0.2[illegible]E+00
2							
MM G L	44	0.3[illegible]E+01	-0.2[illegible]E-03		-0.1[illegible]E+00		0.3[illegible]E+00
		0.2[illegible]E-02	0.2[illegible]E-03	0.5[illegible]E-01	-0.9[illegible]E+00	NOT STG	0.2[illegible]E+00
3							
MM S UL	95	0.2[illegible]E+01	-0.1[illegible]E-03		-0.1[illegible]E+00		0.3[illegible]E+00
		0.4[illegible]E-02	0.1[illegible]E-03	0.2[illegible]E-01	-0.2[illegible]E+01	STG	0.2[illegible]E+00
4							
MM S L	92	0.2[illegible]E+01	-0.4[illegible]E-03		-0.1[illegible]E+00		0.3[illegible]E+00
		0.1[illegible]E-01	0.2[illegible]E-03	0.2[illegible]E-01	-0.1[illegible]E+01	NOT STG	0.2[illegible]E+00
5							
MM P UL	105	0.3[illegible]E+01	-0.1[illegible]E-04		-0.6[illegible]E-02		0.4[illegible]E+00
		0.7[illegible]E-02	0.1[illegible]E-03	0.4[illegible]E-01	-0.1[illegible]E+00	NOT STG	0.2[illegible]E+00

MM REF PROPELLANT REGRESSION COMPARISON, MM HYDRO TENSILE PR. 1750 IN/MIN 600 PSI



ANB 3066 PRPLLNT REGRESSION COMPARISON, HR HYDRO TENSILE E, 1750 IN/MIN, 600 PSI

Figure 10-11



ANB 3066 PROPELLANT REGRESSION COMPARISON, HR HYDRO TENSILE E, 1750 IN/MIN, 600 PSI

Figure 10-12

Table 10-6

95% CONFIDENCE LIMITS

DATA ID	NR OBSERV	INTERCEPT/ STD ERR INTERCEPT	SLOPE/ STD ERR SLOPE	STD ERR REGRESS	CORRELATION/ T	SIGNIFICANCE OF T	UPPER LIMIT/ LOWER LIMIT
1		0.15005679E+04	0.34851929E+02		0.61960697E+00		0.63375293E+04
ANA G UL	148	0.19244550E+03	0.36536868E+01	0.98920337E+03	0.95383148E+01	SIG	0.23793203E+04
2		0.10397849E+04	0.67742669E+02		0.81440425E+00		0.61504727E+04
ANP G L	86	0.19292902E+03	0.52666397E+01	0.64872363E+03	0.12862598E+02	SIG	0.35162764E+04
3		0.24250599E+04	0.12984114E+02		0.26345050E+00		0.70140293E+04
ANP G UL	450	0.18310730E+03	0.22462292E+01	0.14215801E+04	0.57804031E+01	SIG	0.13937354E+04
4		0.16355045E+04	0.53660030E+02		0.40316975E+00		0.76266504E+04
ANT P L	98	0.45570288E+03	0.12431046E+02	0.15040093E+04	0.43166142E+01	SIG	0.15469590E+04
5		0.28039617E+04	0.18244119E+02		0.23237932E+00		0.75676992E+04
ANT P UL	309	0.20680969E+03	0.43581448E+01	0.12642168E+04	0.41862106E+01	SIG	0.24186904E+04

ANB 3036 PRPLLNT REGRESSION COMPARISON, HR HYDRO TENSILE F, 1750 IN/MIN, 600 PSI

95% CONFIDENCE LIMITS

DATA ID	NR OBSERV	INTERCEPT/ STD ERR INTERCEPT	SLOPE/ STD ERR SLOPE	STD ERR REGRESS	CORRELATION/ T	SIGNIFICANCE OF T	UPPER LIMIT/ LOWER LIMIT
1		0.15005679E+04	0.34851929E+02		0.61960697E+00		0.63375293E+04
ANA UL	148	0.19244550E+03	0.36536868E+01	0.98920337E+03	0.95383148E+01	SIG	0.23793203E+04
2		0.28785236E+04	0.34307722E+02		0.28330004E+00		0.77006504E+04
ANP G L	91	0.37079639E+03	0.12310703E+02	0.15225020E+04	0.27868204E+01	SIG	0.14360918E+04
3		0.18283243E+04	0.24117622E+02		0.46597922E+00		0.82558242E+04
ANB P UL	457	0.18371832E+03	0.21460666E+01	0.15949121E+04	0.11233866E+02	SIG	0.19608135E+04
4		0.16355045E+04	0.53660030E+02		0.40316975E+00		0.76266504E+04
ANT P L	98	0.45570288E+03	0.12431046E+02	0.15040093E+04	0.43166142E+01	SIG	0.15469590E+04
5		0.28039617E+04	0.18244119E+02		0.23237932E+00		0.75676992E+04
ANT P UL	309	0.20680969E+03	0.43581448E+01	0.12642168E+04	0.41862106E+01	SIG	0.24186904E+04

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1. REPORT NUMBER: MANCP ~~Report Nr~~-398(78)	2. GOVT ACCESSION NO. (9) Semi-Annual Rept.
3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle): Propellant Surveillance Report ANB-3066 Propellant,	5. TYPE OF REPORT & PERIOD COVERED: Test Results- -Semi Annual
	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s): Elizabeth M./Dalaba	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Propellant Lab Section, Directorate of Maintenance, OO-ALC Hill AFB, Utah 84406	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS: MMWRM Project M82937C/M82938C
11. CONTROLLING OFFICE NAME AND ADDRESS: Service Engineering Division, Directorate of Materiel Management, OO-ALC Hill AFB, Utah 84406	12. REPORT DATE: (11) July 1978
	13. NUMBER OF PAGES: 267
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office): (12) 368p.	15. SECURITY CLASS. (of this report)
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report contains test results on ANB-3066 propellant manufactured by Aerojet Solid Propulsion Company and Thiokol Corporation. Statistical comparison of all types was made on the basis of similar ages.

Propellants were analyzed with respect to the type of polymer used in the manufacturing process and by carton type.

Regressions are given for very low rate tensile, high rate biaxial tensile under pressure, stress relaxation and case liner bonds.

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The test results indicate dissimilarity between Minuteman II, Stage II and Minuteman III, Stage III propellant as described by the linear regression analysis.